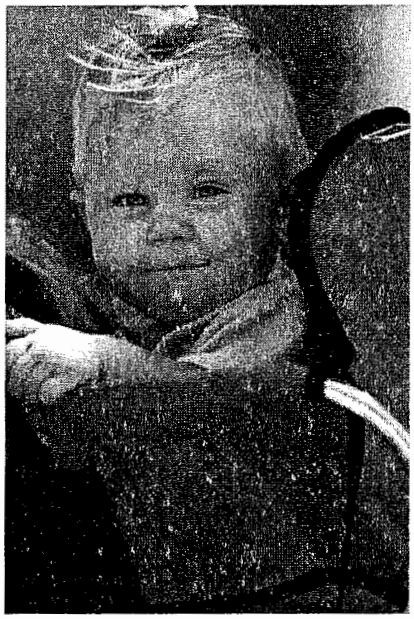
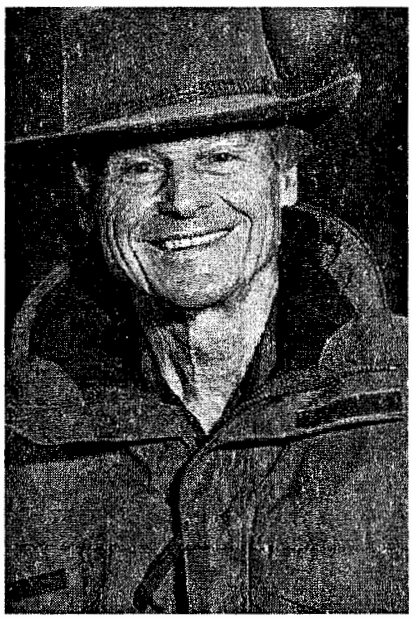


The Status of Access to Oral Health Care in Maine

Maine Department of Human Services



Augusta, Maine

January 2001

The Status of Access to Oral Health Care in Maine

Prepared by the Maine Department of Human Services,
Kevin W. Concannon, Commissioner

January 2001

Submitted to the Joint Standing Committee
on Health and Human Services

(pursuant to P.L. 1999, Chapter 416-A,
22 MRSA § 2127, Part MM-2)

The Status of Access to Oral Health Care in Maine

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The Status of Access to Oral Health Care in Maine

Preface: The Importance of Oral Health

Good oral health helps to ensure overall health and well-being. Oral health is dependent on a variety of determinants including diet, oral hygiene and other lifestyle choices, as well as community prevention interventions and access to professional dental services. Poor oral health has many significant social and economic consequences, as well as an adverse impact on overall health. Oral health care for many people in Maine has often been a neglected and fragmented part of general health care. Regular dental visits and oral health screenings are an opportunity for early diagnosis, education, preventive measures and treatment. People who do not have access to regular professional dental care may develop chronic oral diseases that can lead to complex and costly treatment, eventual loss of teeth or other oral structures, impaired oral function, speech difficulties and compromised appearance, as well as deterioration in overall health status.

Although preventive measures such as the use of fluorides and strategies such as school-based oral health programs have greatly reduced the incidence of dental caries (dental decay) in children, oral diseases still persist among many Maine residents of all ages. Common oral diseases include dental caries, periodontal (gum) diseases and oral cancer. Other oral conditions include malocclusion (improper alignment of the upper and lower teeth), congenital (birth) defects such as cleft palate, and oral injuries. The burden of dental disease is particularly significant because it is largely preventable. A progressive disease, it increases in its impact if untreated.

C. Everett Koop, MD, former U.S. Surgeon General, once said, "You are not healthy without good oral health." In the first-ever Surgeon General's Report on Oral Health issued in 2000, Secretary of Health and Human Services Donna Shalala noted the report's intent "to alert Americans to the full meaning of oral health and its importance to general health and well-being."

It is hoped that this report on the status of access to oral health care for low-income Maine residents will serve a similar purpose and inform the Legislature and other interested parties that the State of Maine faces a seriously demanding challenge in determining how it will meet the oral health needs of our citizens. The time to start meeting that challenge is now.

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
11 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0011

ANGUS S. KING, JR.
GOVERNOR

KEVIN W. CONCANNON
COMMISSIONER

The Status of Access to Oral Health Care in Maine

Introduction

The Department of Human Services was directed by the 119th Legislature through 22 MRSA §2127, Part MM-2, passed in June 1999, to "evaluate the status of access to oral health care for uninsured people in this State and those receiving Medicaid." The Department was further directed to "report its findings to the joint standing committee of the Legislature having jurisdiction over health and human services matters," and to include recommendations on the method that would be most cost-effective for this State to meet the oral health needs of low-income people.

Access to oral health services in Maine, particularly for low-income individuals and especially children, has been an issue of increasing concern to many individuals and organizations during the past decade. The problem of access to dental services is complex, involving not only insurance benefits and reimbursement rates and policies, but also workforce factors, cultural and social issues, Maine's public health infrastructure, and the increased costs of health care.

The charge to the Department for this report was to include recommendations on the most cost-effective method to meet the oral health needs of low-income people. **To address this problem, Maine needs a comprehensive, coordinated and multifaceted approach including adequate surveillance activities, increased prevention and treatment services, and support of recruitment efforts to bring more dentists into the State.** Like many other states, Maine has a minimal public infrastructure for the provision of oral health services. Because of this, and because the oral health needs of low-income people, as of any population group, are complex and related to other concerns, a systems development approach is essential. Short-term solutions, such as one-time Medicaid rate increases or short-term funding of development or demonstration projects will only buy time – not better access or improved oral health. There is no quick or easy fix.

Ultimately, this report is about access to oral health services: *the ability to obtain needed and appropriate services in a timely manner.* In order to understand why access to oral health care is a matter of serious concern, it is important to also understand the impact of that care on health and on the people of this State. In addition, resources – our dental health professional workforce and the system or infrastructure they work in to provide oral health care – also have an integral and inseparable relationship to access to care.

Representatives of several of those groups perceived as interested parties were invited to serve on a working group to assist the Department of Human Services in the preparation of this report. After some consideration, it was decided that the report should include background information to provide a broader understanding of oral health. We felt that this context was necessary to support the importance of access to oral health as an issue requiring

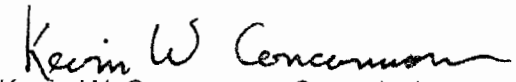
our attention. The report was conceived to include components such as, but not necessarily limited to, the following:

- a discussion of the determinants of oral health;
- a review of oral health status in Maine;
- a discussion of workforce issues (the supply, distribution, recruitment and retention of dental health professionals);
- an examination of Maine's existing infrastructure for the delivery of oral health services;
- an analysis of access to and utilization of existing programs; and
- recommendations for future action and meeting identified needs.

A consultant was contracted to provide assistance in guiding and writing the report. The working group had an initial meeting at the end of July 2000, followed by monthly meetings through January 2001. Meetings were held in Augusta. The Oral Health Program in the Bureau of Health provided staff support to the project, in cooperation with the Maine Medicaid Program in the Bureau of Medical Services.

The Department expected to utilize recent reports and information that many of the groups interested in this issue might have already collected. Our goal was to collect, synthesize and summarize that information, minimizing as much as possible the need for additional data collection. For better or worse, we found that only minimal data exists on access to oral health in Maine. For the most part, dental diseases are not reportable health conditions, and in Maine (as is the case nationally), fewer people have insurance to cover dental care than to cover medical care. In the population as a whole, only about 60 to 65 percent of the population seek professional dental care. Therefore, objective data on the extent of unmet need for oral health services is difficult to obtain. However, as the report shows, access to oral health services for Maine people in general is deteriorating. The issues we face now, for people in rural areas or for whom the expense of care is a significant barrier, will likely be made worse in the near future by an increasingly limited supply of dental professionals.

This is the time for the State of Maine to begin planning to meet this important health need for all its citizens, and particularly for those with limited resources. The report offers several recommendations for short-term and long-term actions, based in a commitment to the notion that our State indeed has an interest in ensuring access to oral health care for its people.



Kevin W. Concannon, Commissioner
Maine Department of Human Services
February 2001

About the organization of this report:

Following the Executive Summary, Conclusions and Recommendations, this report includes sections with more detailed information about the components that comprise what is meant and described when we consider access to oral health care. These components are identified as:

- Determinants and consequences of oral health and disease;
- Oral health status;
- Access to and utilization of oral health services; and
- Oral health resources in Maine.

These components are presented using a combination of literature review, national data, and Maine-specific information. Each section begins with an overview, provided as a summary and including the major points of the section as they relate to Maine. Explanatory notes in each section appear at the end of the section, and a full list of references is included at the end of the report.

Because of the structure of the report, there is a certain amount of repetition of the concluding statements between the components and the Executive Summary, Conclusions and Recommendations. The latter two sections are included with the Executive Summary for convenience although this arrangement means that the reader will find the same information in all three sections.

Following the section on Oral Health Resources in Maine, there is a section that reviews current programs and activities underway in Maine and steps that have been taken to address issues of access to oral health services. The working group that advised the Department in the compilation of this report felt strongly that although there is much that needs to be done, the work that has been undertaken and accomplished in recent years by professional groups, community agencies and State government should be acknowledged.

Last, an Appendix is included to provide further background information relevant to a consideration of access to oral health care in Maine. Most of the items are referred to within the text of the report.

Acknowledgements

The Department of Human Services would like to acknowledge these individuals for their assistance in obtaining information, reviewing and commenting on drafts of the report, their time and most of all for their commitment to improving the oral health of the people of Maine.

Working Group Members

Name and Title	Organization/Agency
Andrew L. Allen, DMD, Past President	Maine Dental Association
Debra Andrews, RDH, BS	Maine Public Health Association
Mary N. Beer, RN (Hancock County Dental Access Coalition)	Maine Dental Access Coalition
Jeffrey D. Dow, DMD	Maine Dental Association
Judith Feinstein, MSPH, Manager, Oral Health Program	MDHS, Bureau of Health
Jack Fuller (Kennebec Valley Community Action Program)	Maine Dental Access Coalition
Sophie Glidden, Director, Office of Rural Health and Primary Care	MDHS, Bureau of Health
Mary Henderson, Esq.	Maine Equal Justice Project
Representative Thomas Kane	Maine House of Representatives
Barbara Leonard, MPH, Director, Division of Community Health	MDHS, Bureau of Health
James H. Lewis, Deputy Director	MDHS, Bureau of Medical Services
Doreen McDaniel, LSW, Community Programs Specialist	MDHS, Bureau of Elder and Adult Services
Dora Anne Mills, MD, MPH, Bureau Director	MDHS, Bureau of Health
Mary Lynne Murray-Ryder, RDH, BS, President	Maine Dental Hygienists' Association
Kip Neale, Medical Care Administrator	MDHS, Bureau of Medical Services
Karen O'Rourke, MPH	Maine Center for Public Health
Thomas Patenaude, Program Officer	Finance Authority of Maine
Bonnie Post, Executive Director	Maine Ambulatory Care Coalition
Valerie Ricker, MSN, MS, NP, Director, Division of Family Health	MDHS, Bureau of Health
Sydney Sewall, MD	Maine Chapter, American Academy of Pediatrics
Jude Walsh, Director, Division of Quality Improvement	MDHS, Bureau of Medical Services
Elizabeth Welton, Provider Relations Specialist	MDHS, Bureau of Medical Services
Ann L. Woloson, Senior Health Policy Analyst	Consumers for Affordable Health Care

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This report was prepared with the direction and consultation of Donna C. Bird, MS, MA, Research Associate at the Muskie School of Public Service, University of Southern Maine, Portland. Christina Booth, BA, a graduate student in the Health Policy and Management Program at the Muskie School, also provided research assistance. Overall direction and staff assistance were provided by Judith Feinstein of the Maine Oral Health Program, and Mary Harrington of the Maine Oral Health Program provided administrative support. Kim Haggan of the DHS Office of Data, Research & Vital Statistics provided the maps showing the distributions of dental professionals by minor civil divisions.

List of Tables

EXECUTIVE SUMMARY

The Department of Human Services was directed by the 119th Legislature through 22 MRSA §2127, Part MM-2, passed in June 1999, to "evaluate the status of access to oral health care for uninsured people in this State and those receiving Medicaid." The Department was further directed to "report its findings to the joint standing committee of the Legislature having jurisdiction over health and human services matters" and to include recommendations on the method that would be most cost-effective for this State to meet the oral health needs of low-income people.

Ultimately, this report is about access to oral health services, particularly for low-income people. **Access is *the ability to obtain needed and appropriate services in a timely manner.*** This report also considers the determinants and consequences of oral health and disease, as well as the oral health status of Maine people. In order to understand why access to oral health care is a matter of serious concern, it is important to also understand the impact of that care on the overall health status of Maine people. In addition, resources – our dental health professional workforce and the system or infrastructure they work in to provide oral health care – also have an integral and inseparable relationship to access to care.

Oral health refers to the entire mouth, not just the teeth, and implies optimal function and appearance as well as the absence of disease. ***Oral health is part of total health.*** It is a fundamentally enabling condition in healthy, productive lives. Although preventive measures such as water fluoridation and strategies such as school-based oral health programs have greatly reduced the incidence of dental decay in children, ***oral diseases still persist among Maine residents of all ages.***

As is the case nationally, and as documented clearly by the recently published *Oral Health in American: A Report of the Surgeon General* (U.S. Department of Health and Human Services 2000), ***Maine residents experience inequities and disparities in access to oral health care and in oral health status. In Maine, these disparities are related to socioeconomic factors and the supply of licensed dental professionals, and are compounded by our geography and population distribution.***

Maine does not have *comprehensive* data to evaluate the oral health status or needs of its citizens, although some data exists. There is no ongoing statewide surveillance system to monitor oral health status. Oral health conditions (other than oral cancer) are not reportable health conditions, and there is no system such as the hospital discharge data system to record the incidence or prevalence of dental diseases (that is, tooth decay and periodontal disease). Therefore, to determine the oral health needs of Maine's uninsured citizens, and those covered by Medicaid/Cub Care, especially because Medicaid does not cover routine dental care for adults, becomes a task that can best be accomplished by description. While the resources available to the Department for this report did not allow for comprehensive Statewide surveys to quantify the status of access to care, it is possible to describe the needs of the people of this State.

Determinants and Consequences of Oral Health and Disease

Good oral health helps to ensure overall health and well-being. Oral health depends on a variety of factors (or determinants) including access to professional dental services, diet, oral hygiene and other lifestyle choices, as well as community prevention interventions. In

addition to an adverse impact on overall health, poor oral health has many significant economic and social consequences.

Fluoridation of public water supplies and provision of sealants in public schools are two important community interventions that help to determine oral health status. In that this report provides an assessment of the status of access to oral health care for uninsured and low-income people in Maine – people who are less likely to purchase or receive health services through the private sector – ***community interventions are important preventive strategies***. In fact, ***the disease burden of dental caries is especially noteworthy because it is largely preventable*** through optimal use of fluoride and the use of dental sealants.

About 75 percent of Maine people on public water supplies currently receive fluoridated water; since only about 47 percent of Maine people use public water supplies, this means that overall, ***about 65 percent of Maine's total population does not have fluoridated water in their homes.***

Sealants are a plastic material that is applied to the chewing surfaces of the molar teeth and help protect against decay. Sealants are most effective when applied soon after the molars erupt. For first molars, this is at age 6-8, and for second molars, at age 12-14. In Maine, as in many other parts of the U.S., some school-aged children receive sealants in school-based oral health promotion and education programs. The 1999 Maine State Smile Survey found that almost half (47.7percent) of the third-graders screened had at least one dental sealant, but that 56.8 percent of these same children needed at least one additional sealant placed.

Services provided by dentists and dental hygienists are a critical component of oral health. Regular dental visits and oral health screenings are an opportunity for early diagnosis, education, preventive measures and treatment. People who do not have access to regular professional dental care may develop chronic oral diseases that can lead to complex treatment, eventual loss of teeth or other oral structures, impaired oral function, speech difficulties and compromised esthetics, as well as compromised overall health status. ***Primary care medical practitioners can also play a significant role in primary prevention of oral diseases and in early interventions***, such as providing education to the parents of very young children, or by screening for oral health problems, such as oral cancers.

Untreated oral disease has many serious negative economic and social consequences, as well as adverse impacts on physical health. The direct economic consequences of oral disease can be attributed to the costs of treating conditions that might have been more cost-effectively addressed at an earlier stage. One of the most significant direct economic consequences is related to the use of hospital emergency departments for the treatment of acute dental conditions. The indirect economic consequences of oral disease derive from losses in productivity. Data collected in the 1996 National Heath Interview Survey found that acute dental conditions led to 3.1 lost school days per year for every 100 children aged 5-17 and 1.9 lost work days per year for every 100 adults aged 18 and over. People of all ages experienced 1.7 bed days per 100 people and 3.7 days of restricted activity. These limitations all carry economic costs that are difficult to measure. There is no corresponding Maine specific data for days lost from work and school or for days of restricted activity, but there is every reason to believe that Maine's experience is similar.

Oral Health Status

Poor oral health status may be indicative of problems accessing oral health care. It may also be a consequence of lack of knowledge about diet, hygiene and professional care needed to prevent or treat oral health problems. In general, ***lower income people have poorer oral health status than do higher income people.*** Estimates from the U.S. Census Bureau indicate that Maine's median household income is less than the national average, so we can expect a higher proportion of Maine residents to have poor oral health status.

Dental caries is the most common disease of childhood. School-aged children from lower income Maine households have poorer oral health status than do children from higher income households. However, even higher income children have unmet needs for treatment including the application of sealants. Children with poor oral health status are more likely to experience problems with oral health when they reach adulthood. ***Poor oral health in young people as well as in adults may result not only in eventual tooth loss but also in impaired general health, compromised nutrition, days lost from school and work, and a compromised ability to obtain or advance in education and employment.***

A substantial proportion of Maine adults under the age of 55 has experienced the loss of one or more permanent teeth due to decay or gum disease. Tooth loss is a greater problem among lower income adults. Moreover, **Maine is among the top five states in the nation with regard to the percent of population aged 65 and older who have experienced total tooth loss.**

A distinct but unknown proportion of Maine adults has poor oral health and unmet dental needs. The lack of comprehensive data to evaluate oral health status means that these people can not be precisely counted, although their needs are often cited as substantial by health and social services providers and in community health needs assessments.

Access to and Utilization of Oral Health Services

Because Maine is a big and largely rural state with a limited number of dental care providers, ***geographic access is a problem for many of the State's residents***. This problem is compounded for low income individuals by several other factors, including: the distribution of dental professionals and the small number of non-profit dental centers; lack of public transportation in all but a few communities; limited availability of dental specialists in many parts of the State; and travel problems related to road conditions in inclement weather.

The ability of Maine's Medicaid program to improve access to dental care is constrained by a shortage of practicing dentists and by the limited number of dentists accepting Medicaid/Cub Care patients, as well as by administrative procedures that providers sometimes experience as cumbersome. In addition, there are limitations imposed by Maine law and regulations related to the practice of dental hygienists that impact Medicaid's ability to provide access to preventive dental services. Maine Medicaid covers routine and preventive dental services for children under 21; adult dental services are covered only under certain urgent care guidelines. ***In spite of recent changes in Medicaid, reimbursement rates continue significantly below market levels and for many dentists do not cover the direct costs of providing care.***

The issue of financial access to dental services for adults is compounded by geographic access and the limitations imposed by Maine's public health infrastructure. Adults who call or write to State agencies seeking help in finding dental care usually ask about sources of financial assistance or ask for help in finding a dentist or dental clinic they can afford (for example, one that provides services on a sliding fee scale). Most adults, particularly working age adults, are not eligible for Medicaid. Even when they are, covered services are limited, so they need to have other resources for dental care. Competing needs and priorities are often particularly acute for this low-income group of people, and they face the greatest barriers in accessing oral health care.

Although we do not have information on the dental health insurance status of Maine workers, we can presume that coverage follows the national pattern and is restricted primarily to people who have full-time jobs with the State's major employers. Medicare, the federal health insurance program for Americans age 65 and over, does not cover dental care services except in very specific instances when they are related to severe medical conditions. Many private dental insurance programs are employment benefits and do not continue into retirement.

Oral Health Resources in Maine

In general, the number of dental professionals practicing is not adequate to meet the needs of the State's population. When this workforce issue and infrastructure concerns are considered with financial and geographic access issues, the needs of uninsured and low-income people in Maine are magnified, but sufficient access to oral health services for all Maine people may be at risk.

At 2,138 persons per dentist (46.8 dentists per 100,000 people), ***Maine's dental resource is substantially lower than the national average*** (58.3 dentists per 100,000 people). This problem is further compounded by the uneven geographic distribution of dentists in relation to the State's population and by an acute shortage of particular dental specialties.

The problem of low numbers and maldistribution of dental professionals becomes even more acute when the focus shifts to dentists who specialize in particular kinds of procedures, such as endodontics or pediatric dentistry. Residents of many Maine counties who need specialty oral health care face substantial geographic barriers to obtaining that care.

Maine's infrastructure for providing oral health services is insufficient, with only 13 public and private non-profit dental centers (clinics) providing services to about 28,000 people across the State. Dental services are provided to current and past clients of the Department of Mental Health, Mental Retardation and Substance Abuse Services in Portland, Augusta and Bangor, and the Indian Health Service operates three tribal dental clinics in Maine. ***As a safety net for oral health, Maine's infrastructure is vulnerable and increasingly fragile.***

Many local and professional groups, and community and State agencies, including the Legislature, have already initiated activities intended to promote and improve oral health and to increase access to oral health services. In the absence of a comprehensive plan, however, these various activities lack the coordinated vision of a long-term and comprehensive approach that will assure effective and lasting improvements.

CONCLUSIONS

The following statements, excerpted from the various sections of this report, serve as conclusions.

1. Although many Maine residents of all ages have good oral health, many others experience inequities and disparities in access to oral health care and in oral health status. These disparities are related largely to socioeconomic factors, and are compounded by our state's geography and population distribution as well as by the distribution of dental professionals.

2. As stated in the recent Surgeon General's report, "the capacity to care for those most in need requires not only an adequate number of individuals to provide the care, but also an equitable distribution of providers to ensure the availability of care. In addition, sufficient financial resources must be available to support the delivery of and reimbursement for care provided to those most in need." This statement also describes Maine's situation.

3. Maine's infrastructure for oral health is minimal, and as a safety net for oral health is insufficient and vulnerable.

4. In general, the number of dental professionals – dentists and hygienists – practicing in Maine is not adequate to meet the needs of this State's population. When these workforce and infrastructure concerns are considered with financial and geographic access issues, the needs of uninsured and low-income people in Maine are magnified. Sufficient access to oral health services for all Maine people may be at risk. Although efforts to increase the numbers of all dental professionals in Maine are underway, results will take considerable time, perhaps several years, to have an impact. This concern is a serious one and is correlated with many of the other issues around access to oral health services.

5. As is the case in virtually all states, Maine does not have comprehensive data to evaluate the oral health status or needs of its citizens. There is no ongoing statewide surveillance system to monitor oral health status.

6. A distinct but unknown proportion of Maine adults has poor oral health and unmet dental needs. Although oral health status cannot be determined, the extent of unmet need can be estimated by looking at the supply of dental professionals. At a minimum, there are 176,938 people living in areas that have received federal designations as Dental Health Professional Shortage Areas, and another 158,044 living in areas for which requests for this designation are to be submitted early in 2001.

7. Poor oral health status may be indicative of problems accessing oral health care. It may also be a consequence of lack of knowledge about diet, hygiene and professional care needed to prevent or treat oral health problems. In general, lower income people have poorer oral health status than do higher income people. Estimates from the U.S. Census Bureau indicate that Maine's median household income is less than the national average, so we can expect a higher proportion of Maine residents to have poor oral health status.

8. The ability of Maine's Medicaid program to improve access to dental care is constrained by a shortage of practicing dentists and by the limited number of dentists accepting Medicaid/Cub Care patients, as well as by administrative procedures that providers

sometimes experience as cumbersome. In spite of recent changes in Medicaid, reimbursement rates continue significantly below market levels and many dentists report they do not cover the direct costs of providing care.

9. At 2,138 persons per dentist (46.8 dentists per 100,000 people), Maine's dental resource is substantially lower than the national average (58.3 per 100,000 people). This problem is further compounded by the uneven distribution of dentists in relation to the state's population and by an acute shortage of particular dental specialists. A growing concern about a national shortage of dentists and the recent difficult experiences of non-profit dental centers in recruiting and retaining dentists emphasize the need for Maine to direct specific efforts toward recruiting new dentists, and to encourage young people to pursue dental professions.

10. It is difficult to separate the issue of financial access for lower-income adults from geographic access and the limitations imposed by Maine's oral health infrastructure. Competing needs and priorities are often particularly acute for this broad group of people for whom access to oral health care has become so problematic.

11. Services provided by dentists and dental hygienists are a critical component of oral health. Regular dental visits and oral health screenings are an opportunity for early diagnosis, education, preventive measures and treatment. People who do not have access to regular professional dental care may develop chronic oral diseases, and ultimately compromise their overall health status. Hygienists represent an underutilized resource in the expansion of oral health prevention education and services to the general public as well as to at-risk population groups such as low-income children and adults and nursing home residents.

12. Fluoridation of public water supplies and provision of sealants in public schools are two key community interventions that help to determine oral health status. In that this report provides an assessment of the status of access to oral health care for uninsured and low-income people in Maine – people who are less likely to purchase or receive health services through the private sector – community interventions are important preventive strategies. In fact, the disease burden of dental caries is especially noteworthy because it is largely preventable through optimal use of fluoride and the use of dental sealants.

13. Dental caries is the most common disease of childhood. School-aged children from lower income Maine households have poorer oral health status than do children from higher income households. Children with poor oral health status are more likely to experience problems with oral health when they reach adulthood. Poor oral health in young people as well as in adults may result not only in eventual tooth loss but also in impaired general health, compromised nutrition, days lost from school and work, and a compromised ability to obtain or advance in education and employment.

14. Many local and professional groups, as well as community and State agencies, including the Legislature, have already initiated activities intended to promote and improve oral health and to increase access to oral health services. These activities have resulted in policy changes at the state level and new statewide and local programs, as described in this report. In the absence of a comprehensive plan, these various activities have lacked the coordinated vision of a long-term and comprehensive approach. However, they can provide the basis for further activity and change.

RECOMMENDATIONS

The charge to the Department for this report was to include recommendations on the most cost-effective method to meet the oral health needs of low-income people. A comprehensive, coordinated and multifaceted approach is needed. Because the oral health needs of low-income people, as of any population group, are complex and related to other health and human concerns, a systems development approach is essential. Short-term solutions, such as one-time Medicaid rate increases or short-term funding of development projects will only buy time – not better access or improved oral health, in the absence of a comprehensive approach.

To address this problem, Maine needs a comprehensive, coordinated and multifaceted approach including adequate surveillance activities, increased prevention and access to treatment services, and support of recruitment efforts to bring more dental professionals into the State. There is no quick or easy fix.

In response to the report's conclusions, and in response to the charge given it in developing this report, the Department offers the following recommendations:

1. Steps should be taken to strengthen and enhance Maine's minimal public health infrastructure. Any such steps would also help to increase access to oral health care and improve oral health status.

2. As the public health infrastructure is further developed and expanded, efforts should be made to incorporate oral health as an integral component of an enhanced system. The development of a coordinated, comprehensive plan for oral health, incorporating short-term and long-term objectives, would benefit all residents of Maine, and particularly those who are uninsured or underinsured. Long term approaches are necessary to manage the issue of access to dental care and to develop equitable, effective, and lasting solutions.

3. The State should direct resources to developing its capacity to collect comprehensive data to evaluate the oral health status and needs of all Maine's citizens.

4. The State should improve access to public and private dental insurance for all Maine residents.

    - The Maine Medicaid Dental Program's reimbursement schedule should be increased to reflect a meaningful level of payment in terms of the costs of providing care. This is crucial in order to increase provider participation as well as to prevent further deterioration of the provider base. Once increased, fees should be maintained with regular adjustments to account for inflation. Provider incentives should be considered. Continued and ongoing attention should be paid to further reducing and streamlining administrative procedures and paperwork that have often been recognized as barriers to provider participation.

    - Employers who provide medical insurance benefits should be encouraged to provide dental benefits to their employees. Technical assistance could be offered to employers to help them determine the best insurance method for their businesses and their employees (indemnity, managed care, or direct reimbursement).

5. The State should direct resources to improving access to oral health screening, prevention and treatment services for all Maine residents by increasing private and public capacity to provide dental services. Building a state infrastructure for oral health services that includes both the private and public sectors should be part of a comprehensive approach.

6. The State should support changes that maximize the effectiveness of all dental professionals, such as expansion of public health supervision status of dental hygienists and their practice settings, and reimbursement for their services. Hygienists are educated and licensed to provide preventive dental services. Prevention is a key element in maintaining and improving oral health, and can reduce the demand on the oral health care delivery system for more extensive – and expensive – care. Expansion of the role of dental hygienists, their training and functions should be seriously explored.

7. The State should direct resources specifically to supporting key community prevention and intervention strategies for oral health, such as school-based oral health education, dental sealant programs, early education and intervention programs for young children and their parents, general community oral health education, and community water fluoridation. Efforts by community groups to fluoridate remaining public water supplies should be supported, so that 100 percent of Maine's public water supplies provide this health benefit.

8. The State should continue to develop, support and improve the dental safety net by assuring funding for public and private non-profit oral health programs that will help them to provide services that remain affordable to the populations they intend to serve and help them to recruit and retain dental professionals.

9. The State should support the growth of the dental professional workforce in general and with particular attention to safety net providers:

    - The State should undertake planning for a dental residency program as part of a comprehensive approach to increase dental professionals and access to dental care in Maine.

    - The State should support expanded funding for state loan forgiveness and repayment programs for all dental professionals.

    - The State should work with stakeholders, including dental professional associations and the Board of Dental Examiners, to facilitate recruitment of new dental professionals to the State. Support for changes in reciprocity and licensure policies, for policy changes at the national level that would support the building of an oral health infrastructure, and working to eliminate restrictions and requirements that make employment of foreign-born but U.S.-trained dentists problematic for community dental programs would all improve access to oral health services in Maine.

10. The State should determine whether it fully utilizes Medicaid as a financial resource, in terms of maximizing federal participation, match, and other strategies.

DETERMINANTS AND CONSEQUENCES OF ORAL HEALTH AND DISEASE

Overview

Good oral health helps to ensure overall health and well-being. Oral health is dependent on a variety of factors (or determinants) including diet, oral hygiene and other lifestyle choices, as well as community prevention interventions and access to professional dental services. Anyone unable to benefit from all of these factors is at risk of experiencing poor oral health. Poor oral health has many significant social and economic consequences, as well as an adverse impact on overall health. This section provides summary information on these determinants and consequences. Several references are made to Maine data where appropriate (such as the extent of community water fluoridation and the prevalence of dental sealants), but for the most part this section is intended to provide background information on the relationship between oral health and overall health.

Determinants

Diet

Proper nutrition is an important component of oral health throughout life. Beginning with prenatal diet, certain nutrients help to ensure proper development of the craniofacial complex (palate, salivary glands, tongue, bones of the head, nerves and pharynx). Some birth defects, such as cleft palate and other facial malformations, have been traced to maternal lifestyle choices (e.g., smoking and alcohol use) that decrease available nutrients to the fetus and impede development (U.S. Department of Health and Human Services 2000). Appropriate prenatal care is essential to the prevention of such malformations.

In infancy and childhood, a balanced diet accompanied by the appropriate amount of fluoride (either in drinking water or via supplements) ensures proper development of tooth enamel and underlying bone structures. Food choices and eating patterns established during this time help to encourage good behaviors during adolescence and adulthood. However, even healthy tooth surfaces are constantly at risk for dental caries due to the erosive properties of many foods. Acids found in fruit juices and other sugary foods and beverages can erode tooth enamel (Pla 1994). On the other hand, foods with high fiber content, fresh fruits and vegetables help to clear food from the teeth and gums and decrease potential eroding effects.

Hygiene

Daily oral hygiene contributes to the prevention of caries and periodontal disease and helps prevent oral bacteria from entering the blood stream. Regular brushing with fluoride toothpaste removes debris and harmful bacteria from tooth surfaces and strengthens tooth enamel. Brushing and flossing also play critical roles in the prevention of periodontal diseases by removing bacteria that accumulate between the teeth and along the gum line. Even people who have lost all their teeth need to perform regular oral hygiene to prevent ulcers and other alterations in the mouth tissue that can cause pain and adversely affect taste, chewing and swallowing (Lokshin 1994).

Lifestyle

Many lifestyle choices increase the risk of oral disease and injuries. Some specific examples follow:

- Tobacco use is implicated as a causal factor in over 90 percent of oral and pharyngeal cancers in the United States (U.S. Department of Health and Human

Services 2000). This is true whether the tobacco product is smoked, snuffed or chewed.

- Excessive alcohol consumption, either alone or in combination with tobacco use, is associated with increased risk of oral cancer, periodontal disease, caries and other oral health problems.

- Participation in contact sports such as football, soccer and wrestling increases the risk of damage to teeth and other mouth structures (Griffen and Goepferd 1991). People who engage in these sports should wear mouth guards.

- In recent years, body piercing in the oral cavity has also emerged as an oral health risk factor. Piercing increases opportunities for bacteria in the oral cavity to enter the blood stream. While harmless in the mouth, these bacteria can wreak havoc in the rest of the body, particularly in people with compromised immune systems. Metal jewelry in the mouth can also damage the teeth and gums.

Community Interventions

Fluoridation of public water supplies and provision of sealants in public schools are two important community interventions that also help to determine oral health status. In that this report provides an assessment of the status of access to oral health care for uninsured and low-income people in Maine – people who are less likely to purchase or receive health services through the private sector – community interventions are important preventive strategies. In fact, as touched on in the discussion of oral health status, the disease burden of dental caries is especially noteworthy because it is largely preventable through optimal use of fluoride and the use of dental sealants.

The mineral fluoride increases the resistance of tooth enamel to the acids and microorganisms that can cause decay (Griffen and Goepferd 1991). It appears to be especially effective in preventing caries in primary (baby) teeth and on smooth tooth surfaces. The most common and cost-effective mechanism for delivering fluoride involves adding it to public water supplies at rates varying from 0.7 to 1.2 parts per million (Lokshin 1994). In Maine, the optimal level for public water fluoridation is 1.2 parts per million.

About 75 percent of Maine people on public water supplies currently receive fluoridated water; but since only about 47 percent of Maine people use public water supplies, this means that overall about 35 percent of Maine's total population has fluoridated water in their homes (Maine Bureau of Health 2000). In non-fluoridated communities or in rural areas where households obtain water from private wells, schools often administer fluoride rinses or supplements to help accomplish the same purpose. (See list of Maine communities with fluoridated water supplies in the Appendix.)

Sealants are a plastic material that is applied to the chewing surfaces of the molar teeth, and sometimes additional teeth as well. This plastic resin bonds into the depressions and grooves (pits and fissures) of the chewing surfaces of these teeth and provides protection to the enamel by acting as a barrier. The chewing surfaces are not as protected as are the smooth surfaces by fluoride alone (Griffen and Goepferd 1991); the combination of fluoride and sealants is often considered as an "immunization" against decay. Sealants are most effective when applied soon after the molars erupt. For first molars, this is at age 6-8, and for second molars, at age 12-14.

In Maine, as in many other parts of the U.S., some school-aged children receive sealants in school-based oral health promotion and education programs. These programs are relatively new, however. A focused effort was initiated through the State's Oral Health Program beginning with the 1997-98 school year. The 1999 Maine State Smile Survey (Oral Health Program, publication pending), found that almost half (47.7percent) of the third-graders screened had at least one dental sealant, but that 56.8 percent of these same children needed at least one additional sealant placed.

Regular Professional Care

Services provided by dentists and dental hygienists are an important component of oral health. The American Academy of Pediatric Dentistry recommends that children have their first visit to the dentist during their first year of life, or within six months of the eruption of the first primary tooth (Griffen and Goepferd 1991). This enables the dentist to provide education on optimal oral care to the parent and introduces the child to dentistry at an early stage. For most children, adolescents and adults, visits to the dental office are recommended every six months to one year. These visits should include a cleaning, usually administered by a hygienist, and an oral examination by a dentist. This routine enables the oral health professional team to provide needed interventions in a timely manner and reduces the likelihood of serious problems.

Primary care practitioners can play a significant role in primary prevention of oral diseases and in early interventions, such as providing education to the parents of very young children. They are often the only health care providers to see children with any regularity, and many dentists will not see children younger than about age three. By this age, children can have significant oral health problems. Primary care practitioners can also play a significant role in screening for oral health problems among adults, such as oral cancers. The role of primary care practitioners in oral health care is also important because a number of general health conditions carry specific oral health risks. For example, drugs routinely used to treat allergies, hypertension and congestive heart failure decrease salivation, which can increase the risk of caries and periodontal disease (Lokshin 1994). People with diabetes, rheumatoid arthritis and HIV infection are also at increased risk of periodontal disease, as are cancer patients undergoing chemotherapy.

Consequences

Relationships between Oral Health and Overall Health

Oral health and general health can be regarded as partners. If disease exists in one, it is likely to affect the other. The mouth is the primary route of entry to the body. Environmental pathogens can enter the mouth, then proliferate in the pharynx and lungs, causing infectious diseases. Oral bacteria appear to play a role in the development of many other conditions including cardiovascular infections and adverse pregnancy outcomes.

A number of infectious diseases are first apparent in and around the mouth. They are signaled by symptoms such as enlarged lymph nodes (mumps), parotid ducts (tuberculosis), red patches at the junction of the hard and soft palates (infectious mononucleosis), oral blisters (hand, foot and mouth disease) and oral ulcers (gonorrhea, syphilis and histoplasmosis) (U.S. Department of Health and Human Services 2000).

The connection between infective endocarditis and oral bacteria has been known for some time. In endocarditis, bacteria damage heart tissue. Dental procedures, as well as

other surgical interventions, may put patients at risk by inducing bacterial entry into the bloodstream, but normal everyday activities can also cause this condition.

Women with severe periodontal disease are seven times more likely to give birth to an underweight baby (U.S. Department of Health and Human Services 2000). Pregnant women with periodontal disease experience elevated risk of secondary infections. When high volumes of oral bacteria enter the maternal blood stream, they can cross the placenta and interfere with fetal development. Amniotic fluid infections may trigger premature labor resulting in low birth weight babies. The increased presence of bacteria in the mouth can also produce toxins that cause fetal malformations.

Oral bacteria are also a concern for individuals with diabetes mellitus. They are at higher risk for periodontal disease, which can in turn interfere with blood sugar control (Taylor 1999). Diabetic patients have a much higher overall risk for dental caries, total tooth loss, cardiovascular problems and serious nutrition difficulties.

As noted above, the oral cavity itself is often at risk from medical treatments that disturb the normal function of the enamel, saliva or soft tissue (Lokshin 1994; U.S. Department of Health and Human Services 2000). The most prominent side effects are seen as a result of chemotherapy, neuroleptics, antidepressants, antihistamines, antiepileptics and calcium channel blockers. These therapies can increase risk of oral ulcers, lesions, caries, and bacteria.

Oral Disease, Social Consequences, and Everyday Activity

Untreated oral disease has many serious negative social consequences, as well as the adverse impacts on physical health noted above. People with facial malformations caused by oral disease (such as untreated caries or tooth loss) or conditions (such as malocclusion or cleft lips or palates) may experience discrimination and stigmatization, which may lead to depression and a loss of self-esteem. They are less likely to make eye contact or to smile and talk freely with others (U.S. Department of Health and Human Services 2000). This can substantially and adversely affect their chances and achievements in school, social life and employment.

We use the craniofacial complex to interact with the world. Malformations, untreated caries and tooth loss, as well as poorly fitted dentures, decrease the ability to taste, chew, bite, swallow and communicate. In addition to these mechanical impediments, malformations, dental caries, joint disorders, oral and pharyngeal cancers are painful conditions that often require equally painful treatments.

Many types of oral and facial pain are difficult to treat. The anxiety associated with these symptoms often stems from an inability to predict the onset of pain plus the knowledge that the pain can take days or weeks to treat and can get worse prior to its decline. Narcotics are often required to relieve painful symptoms; the use of these drugs greatly limits functioning. The treatments themselves as well as the convalescence often require long periods of inactivity.

In chronic pain disorders, such as temporomandibular disorder (TMD), the pain may not be treatable without surgical intervention. People suffering from TMD may experience limited range of movement in their mouths, joint and muscle tenderness, headaches,

difficulty sleeping, reduced concentration and overall inability to enjoy leisure time. These symptoms are common with many types of oral and facial pain.

Economic Consequences of Oral Disease

The direct economic consequences of oral disease can be attributed to the costs of treating conditions that might have been more cost-effectively addressed at an earlier stage. Although difficult to state unequivocally, the lifetime cost of restoring a tooth, beginning with a simple amalgam (silver) or a composite (white) filling can be many times the original expense. For example, a simple composite filling provided to a 15 year-old, at perhaps a cost of $75, could end up costing that individual at least $2,584 with additional restorations including root canal surgery by the age of 75 – 30 times or more the original investment. (Mjor 1991).

One of the most significant direct economic consequences is related to the use of hospital emergency departments for the treatment of acute dental conditions. These are assumed to exclude conditions related to trauma, such as those resulting from car accidents and requiring an oral surgeon. In the access section of this report, we refer to numbers of individuals presenting at two Maine hospitals' emergency departments with acute dental conditions.

In addition, a study of admissions to children's hospitals for untreated dental caries found that the resulting services cost an average of $3,000 to $4,000 per child and required inpatient stays averaging three days per child (Ettelbrick, Webb and Seale 2000). Anecdotal information from pediatric dentists in Maine indicates similar costs for hospital associated with surgery needed to address extensive decay in young children, usually involving the need for general anesthesia.

The indirect economic consequences of oral disease derive from losses in productivity. Data collected in the 1996 National Heath Interview Survey found that acute dental conditions led to 3.1 lost school days per year for every 100 children aged 5-17 and 1.9 lost work days per year for every 100 adults aged 18 and over. People of all ages experienced 1.7 bed days per 100 people and 3.7 days of restricted activity (U.S. Department of Health and Human Services 2000). These limitations all carry economic costs that are difficult to measure. There is no corresponding Maine specific data for days lost from work and school or for days of restricted activity, but there is no reason to expect that Maine's experience would be significantly different.

There are personal economic consequences to poor oral health. Not only do many people lose time from work, which may or may not be covered by an employer's sick leave policy, but some number of individuals find their ability to obtain or advance in employment limited by their oral health status. Although there are no numbers to substantiate these observations for Maine, there are many anecdotes to support them. People report being unable to find a job due to their appearance. People report being unable to leave their jobs during the workday – because of company policy or because they cannot afford the lost wages – to seek dental care and so put it off until the need becomes an emergency. They report being passed over for promotions. One example, related in a telephone call to the State's Oral Health Program, was a woman in her mid-30's whose boss at a motel in a resort area wanted to promote her from her job as a chambermaid to the front desk. He told her he could not do so until she had her front teeth fixed.

ORAL HEALTH STATUS

Overview

In the context of this report, the word *status* refers to the *condition* of the teeth, gums and other parts of the anatomy in or near the oral cavity. The most common oral health status measures are presence of untreated caries or teeth with fillings, loss of periodontal attachment, tooth loss due to decay or gum disease, and prevalence of oral and pharyngeal cancers and related lesions (U.S. Department of Health and Human Services 2000).

Poor oral health status may be indicative of problems accessing oral health care. It may also be a consequence of lack of knowledge about diet, hygiene and professional care needed to prevent or treat oral health problems. In general, lower income people have poorer oral health status than do higher income people. Estimates from the U.S. Census Bureau indicate that Maine's median household income is less than the national average, so we can expect a higher proportion of Maine residents to have poor oral health status.

As is the case in virtually all states, Maine does not have comprehensive data to evaluate the oral health status or needs of its citizens. Dental diseases (tooth decay and periodontal disease) are not reportable health conditions, and there is no system such as that used by hospitals to record the incidence or prevalence of oral health conditions, other than oral cancer. There is no ongoing statewide surveillance system to monitor oral health status.

Since 1985, only two statewide assessments have been conducted, both focusing on the oral health of school-aged children; several community studies have also been conducted. The 1985 study, a random sample survey of fifth graders, showed that 8 of 10 Maine children had experienced dental decay in either their primary or permanent teeth (Office of Dental Health 1985). Those children are now young adults. Their current oral health status is not known. The second assessment is the 1999 Maine State Smile Survey, discussed below (Oral Health Program, publication pending).

Current and relevant statewide data sources are limited in terms of their frequency of administration, sample size, and level of detail. This section provides a summary of the information currently available. Key points to be made are these:

- Dental caries is the most common disease of childhood. School-aged children from lower income Maine households have poorer oral health status than do children from higher income households. However, even higher income children have unmet needs for treatment including the application of sealants.

- A substantial proportion of Maine adults under the age of 55 has experienced the loss of one or more permanent teeth due to decay or gum disease. Tooth loss is a greater problem among lower income adults. Moreover, Maine is among the top five states in the nation with regard to the percent of population aged 65 and older who have experienced total tooth loss.

- A distinct but unknown proportion of Maine adults has poor oral health and unmet dental needs. The lack of comprehensive data to evaluate oral health status means that these people can not be counted, although their needs are often cited as substantial by health and social services providers and in community health needs assessments.

Children and Adolescents

Children with poor oral health status are more likely to experience problems with oral health when they reach adulthood. The 1999 Maine State Smile Survey, coordinated by the state's Oral Health Program, provides the most recent and comprehensive information on the oral health status of Maine's children. The survey included an assessment of the oral health status of a sample of children in elementary school (kindergarten and third grade) conducted by dental hygienists. Eligibility for the Free and Reduced School Lunch Program served as a proxy measure for the children's income status.

Kindergarten was chosen to assess the oral health status of children as they start school; third grade was chosen to determine the oral health status of school-aged children. Although many children in Maine have good oral health at these age levels, the burden of oral disease – in the case of children, tooth decay – is spread unevenly through the population. Results of the Smile Survey indicated that for both grade levels screened, those children who are eligible for the Free and Reduced Lunch Program (FRL) had significantly poorer oral health. As with children around the country, approximately 20 percent of the children screened had untreated decay. About one-third of the younger children screened had at least one tooth with a history of decay, and almost 45 percent of the older children surveyed had experienced dental decay in either primary or permanent teeth. (See the fact sheet, "Oral Health of Maine's Children," in the Appendix for an overview of the Smile Survey.)

Table 1 summarizes findings related to the oral health status of children participating in the assessment. On all measures shown, the children eligible for the Free and Reduced School Lunch Program had poorer oral health status than the children not eligible for this program. This is consistent with national data indicating that children living at or below the federal poverty level are about twice as likely as children in higher income groups to have at least one untreated decayed tooth (U.S. Department of Health and Human Services 2000). Table 1 suggests that even higher-income Maine children may have unmet needs for treatment including the application of sealants. (Note: the table shows the proportion of children with decay classified as "rampant" as a measure of urgent treatment needs; these are children assessed to be in need of immediate dental care.)

Table 1: Selected Measures of Oral Health Status of Maine Children

Grade and FRL Status	Oral Health Status Measures					
	Untreated decay	Need treatment	Rampant decay	Need sealants	Have sealants	Caries free
Kindergarten-not FRL eligible	15.0	16.0	0.3	18.6	1.6	71.8
Kindergarten-FRL eligible	22.7	24.2	4.9	22.3	1.1	61.4
Third grade-not FRL eligible	11.6	11.8	0.7	52.1	52.5	64.6
Third grade-FRL eligible	33.6	33.5	2.2	65.9	37.9	39.8

SOURCE: Maine State Smile Survey, 1999 (ME Oral Health Program, publication pending). Numbers in cells are percent of participants in each category. Percents do not add to 100 because children may be counted in more than one category, i.e., a child with untreated decay may also need sealants.
NOTE: Children living in households with incomes at or below 185 percent of the federal poverty level are eligible for the Free and Reduced School Lunch Program. As of 2000, the federal poverty level for a family of four was $17,505 a year.

With the help of five area dental hygienists, the Washington County Child and Youth Dental Program conducted a comprehensive oral health screening survey of preschool-aged children between September 1998 and June 1999 It should be remembered that Washington County is often recognized as the poorest county in Maine. Of the 239 children examined, 35 percent had already experienced some decay in their primary (baby) teeth. The hygienists observed untreated decay in 30 percent of the children. They found evidence of baby bottle tooth decay (which specifically affects upper front teeth) in 13 percent of the children examined. (See the Appendix for a fact sheet summarizing this survey.)

It is important to note that nationally dental caries (decay) remains the most common chronic disease of childhood (National Institute of Dental Research 1989), several times more common than asthma. It affects 84 percent of children by the age of 17 and remains a significant health problem, particularly for low-income and minority children. Estimates nationally are that 80 percent of dental caries are experienced by 20 to 25 percent of children. The 1999 Maine State Smile Survey shows this to be the case for Maine, 10 years after the national data was collected.

It is equally important to note that dental caries is a *progressive* disease. If untreated, the extent of decay increases and spreads. Thus, as the burden of untreated disease increases with age, caries can result in acute or chronic pain, dental abscesses, infections, and tooth loss. The burden of this disease is especially noteworthy because it is largely preventable, and the childhood years are the optimum time for preventive measures.

Adults

Since the early 1970s, American adults aged 18-54 have experienced an increase in the average number of permanent teeth without decay or fillings (U.S. Department of Health and Human Services 2000). This suggests that, overall, the oral health of adults is improving. The Behavioral Risk Factor Surveillance System[1] (BRFSS) provides an important source of data on the oral health status of adults. The 1995 and 1999 Maine BRFSS surveys asked each respondent how many permanent teeth s/he had had removed due to tooth decay or gum disease. Data indicated in 1995 that 2.6 percent of the 25-34 age group and 14.6 percent of those aged 35-44 had lost six or more teeth, and that 50 percent of the younger group and 66.8 percent of the older group had lost at least one tooth to preventable causes.

Table 2 shows responses in 1999 to the question by age group. Among adults age 25-34, there was a slight increase in the proportion who had lost six or more teeth (to 3.3 percent), but a decrease in the next age group, those aged 35-44, to 9.8 percent. Similarly, there was a decrease in the proportion of people in each of those age groups who had lost at least one tooth to these preventable causes, but between them, 58.5 percent of these working age adults had lost at least one tooth.

Even among relatively young adults, a substantial proportion has experienced the loss of one or more permanent teeth. This survey also found that loss of permanent teeth is related to household income, with lower income people more likely to have experienced the loss of one or more permanent teeth. Indeed, a higher degree of tooth loss (6 or more) is related proportionately to income, with more people in lower income groups having lost teeth.

The degree of tooth loss in adults due to tooth decay or gum disease can be a marker of the oral health status of an entire community. A high rate may be an indicator of lack of

Table 2: Reported Loss of Permanent Teeth by Maine Adults, 1999

Age Group	None	1-5	6 or more but not all	All
18-24	84.5	12.3	2.7	0.5
25-34	71.8	23.1	3.3	1.8
35-44	52.0	35.4	9.8	2.5
45-54	40.0	37.4	13.7	7.7
55-64	24.6	29.9	26.8	18.3
65+	13.1	24.4	24.9	34.7
Total	46.7	28.1	13.4	11.0

SOURCE: Behavioral Risk Factor Surveillance System, Maine Statewide Survey Data, 1999. Numbers in cells represent percent of total respondents answering question. Percents do not add to 100 due to missing data for some responses. Actual question: How many permanent teeth have you had removed due to tooth decay or gum disease?

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access to dental care, insufficient exposure to fluorides, or poor oral hygiene and irregular visits to a dentist, or a combination of all these factors. Tooth loss may result in loss of function, and any tooth loss due to decay or gum disease is considered to compromise oral health status, contributing to other health issues as well. Poor oral health in young people as well as in adults may result not only in eventual tooth loss but also in impaired general health, compromised nutrition, days lost from school and work, and a compromised ability to obtain or advance in education and employment.

About 2.4 percent of the cancers (30,200 cases) diagnosed in the United States every year are located in the oral cavity and/or throat (pharynx) (U.S. Department of Health and Human Services 2000). About 7,800 Americans die from oral and pharyngeal cancers each year. More than 95 percent of these cancers occur in people aged 35 and older. Males typically experience an incidence of these diseases that is substantially higher than females in the same age groups. Table 3 shows the incidence of these cancers in Maine for the years 1990-1996. The Maine rates are slightly higher than the comparable national rates of 6.0 for white women and 14.9 for white men (U.S. Department of Health and Human Services 2000). Many of these cancers are not diagnosed until they have reached advanced stages that are less amenable to successful treatment. Nevertheless, Maine's 1998 oral cancer mortality rate of 1.2 per 100,000 is the lowest it has been in the past decade (Maine Bureau of Health 2000). Regular oral exams could improve survival rates for people with these cancers.

Table 3: Cancer of the Oral Cavity and Pharynx: Incidence Rates for Maine, 1990-1996*

	1990	1991	1992	1993	1994	1995**	1996**	Average
Total	11.8	9.7	9.2	11.7	9.5	11.9	8.8	10.4
Male	18.8	14.1	13.5	17.5	14.3	17.6	12.5	15.5
Female	6.1	6.2	5.3	6.8	5.4	7.2	5.6	6.1

SOURCE: Maine Department of Human Services, Maine Cancer Registry.
* Maine annual rates are per 100,000 population, directly age-adjusted to the US 1970 population
** 1995 and 1996 are preliminary incidence rates

Older Adults (aged 55+)

Data from the National Center for Health Statistics indicate that, among American adults aged 55 -74, the average number of permanent teeth *without* decay or fillings has decreased by about a third since the early 1970s (U.S. Department of Health and Human Services 2000). This suggests that the current cohort of older Americans has poorer oral health than their immediate predecessors. Since Maine has a higher proportion of people aged 65+ than the national average (14.1 percent for Maine, 12.7 percent for the U.S. as a whole), this is a particular issue with regard to oral health care needs.

Older adults are included in the BRFSS survey referenced above. Table 2 clearly shows that loss of permanent teeth due to tooth decay or gum disease is much greater in the older age groups, with nearly twenty percent of Maine respondents aged 55-64 and over a third of those aged 65+ having lost all their permanent teeth. The overall trend in the United States shows a declining percent of people without any teeth, even in the older age groups (U.S. Department of Health and Human Services 2000). However, data from the 1995-97 BRFSS still place Maine among the top five states in the nation with regard to the percent of population aged 65 and older who have experienced total tooth loss (Centers for Disease Control 1997). People without teeth and those who have dentures still need access to regular oral health care as a general health and preventive practice.

Data Related to Other Indicators of Oral Health Status among Adults

The 1999 BRFSS also asked respondents questions about the length of time since their last dental visit, and since their last dental cleaning. Regular dental visits and cleanings are indicators that may be used to assess the degree of available access to oral health services. Clearly, access to these services affects oral health status. The responses to these questions are summarized in this report's section on access to oral health services.

As noted, Maine does not have sufficient data to evaluate the oral health status or needs of its citizens. Information related to the oral health of Maine adults derives almost entirely from the self-reported data available through the BRFSS. The BRFSS only asks about tooth loss to measure oral health status. However, this lack of data for adults is typical across the country. Nationally, even though there have been striking improvements overall in oral health status, significant disparities are evident in some population groups as classified by sex, income, age, and race/ethnicity (U.S. Department of Health and Human Services 2000). There is no reason to believe that this finding would not be the same in Maine.

Individual Maine communities and groups have conducted a variety of needs assessments during the past decade (including but not limited to Franklin, Hancock and Piscataquis Counties, Waterville, and the Greater Portland area). These assessments have used different surveys and methods, primarily collecting self-reported information rather than clinical data through dental screenings, and results cannot be summarized as a whole or compared to each other. In addition, such surveys usually only ask respondents if they need dental care or if they have had difficulty obtaining the dental care they needed. Various assessments have also been conducted by a number of state agencies and programs (e.g., Head Start, the Bureau of Health's Teen & Young Adult Health Program, and the Division of Family Health as part of a strategic planning process) and by other private non-profit agencies (including but not limited to Consumers for Affordable Healthcare through its Listening Post project). All of these appraisals share a common finding: all have identified better access to affordable dental care among the top health needs of the groups they assess.

Anecdotally, we have evidence that there is a distinct percentage of the adult population whose oral health is poor and who are in need of dental care. However, there are no formal studies (such as population-based screenings of adults) to tell us exactly who this group of people is, in terms of their numbers or demographic characteristics, or related to their specific dental needs. Although their oral health status cannot be described, the extent of unmet need can be estimated by looking at the supply and distribution of dental professionals. At a minimum, there are 176,938 people living in areas that have received federal designations as Dental Health Professional Shortage Areas, and another 158,044 living in areas for which requests for this designation are to be submitted early in 2001. See also the table in the Appendix titled Dentists and FTE Dentists by Dental Care Analysis Area, and the section of this report on Oral Health Resources in Maine.

Adults who call or write to state agencies seeking help in finding dental care usually ask about sources of financial assistance or ask for help in finding a dentist or dental clinic they can afford. Although some people are looking for preventive care, most cite dental problems such as the need for dentures, extractions, and root canals as well as oral infections and dental pain. These problems may all be related to inadequate access to preventive and ongoing dental care.

Endnote, Oral Health Status

[1] The Behavioral Risk Factor Surveillance System is a survey designed to measure certain health promoting and health risk behaviors among adults. With oversight from the U.S. Centers for Disease Control and Prevention, all states use a common methodology and question set to enable cross-state comparisons to be made. Data are collected by a telephone survey of a random sample of state residents age 18 and older.

ACCESS TO AND UTILIZATION OF ORAL HEALTH SERVICES

Overview

Ultimately, this report is about access to oral health services. Access is *the ability to obtain needed and appropriate services in a timely manner.* This concept has many dimensions. Among these are financial access, or the ability to pay for needed services. Geographic access refers to travel distances and times. A number of access indicators are related to the timeliness of care; how long it takes to get an appointment and how long the patient waits to be seen once in the office are two of these. Another important dimension of access is availability – whether the care is offered at times that are convenient to the patient.

There are currently no widely accepted standards for measuring oral health access[1]. Standards proposed as "ideal" by some members of the working group convened to assist the Department of Human Services in the preparation of this report are included at the end of this section. Some of these are adapted from the criteria used to determine areas and populations eligible for federal designation as Dental Health Professional Shortage Areas (DHPSAs). Information on these criteria can be found in the resources section of this report.

The most important points regarding access to oral health services in Maine are:

- Because Maine is a big and largely rural state with a limited number of dental care providers, geographic access is a problem for many of the State's residents. This problem is compounded by other factors, including: the lack of public transportation in all but a few communities; a complete lack of certain dental specialists in many parts of the state; and travel problems related to road conditions in inclement weather.

- The Maine Medicaid program's ability to improve access to dental care is constrained by a shortage of practicing dentists and by the limited number of dentists accepting Medicaid/Cub Care patients. Medicaid covers routine and preventive dental services for children under 21; adult dental services are covered only under certain urgent care guidelines. In spite of recent changes in Medicaid, reimbursement rates continue significantly below market levels and for many dentists do not cover the direct costs of providing care. There are continued concerns about administrative issues as well.

- Financial access to dental services for uninsured or underinsured adults is a significant barrier to obtaining care.

- Although we do not have information on the dental health insurance status of Maine workers, we can presume that coverage follows the national pattern and is restricted primarily to people who have full-time jobs with the state's major employers.

- Medicare, the federal health insurance program for Americans age 65 and over, does not cover dental care services except in very specific instances when they are related to severe medical conditions. Many private dental insurance programs are employment benefits and do not continue into retirement.

Access to oral health services as defined above – the ability to obtain services – in Maine is highly influenced by financial factors. Geography and the distribution of resources are also important influences. These three issues are difficult to separate, particularly for uninsured or underinsured people.

Financial Access

In the United States, most oral health care is financed through employment-based dental insurance or out-of-pocket payments by the consumer. Only about 4 percent of dental care costs are financed with public funds, primarily Medicaid (U.S. Department of Health and Human Services 2000). Financial barriers to accessing oral health services remain significant. In a national survey conducted in spring 1994, over seven out of ten respondents with unmet dental care "wants" cited financial reasons for not obtaining dental care (Mueller, Schur and Paramore 1998).

In a November 15, 2000 teleconference on access to dental care in rural areas sponsored by the National Rural Development Partnership (NRDP) Healthcare Taskforce, Don Schneider, DDS, MPH, Chief Dental Officer for the Health Care Financing Administration (HCFA) noted that financial considerations are a key factor in dental access problems. He also commented on the impact of insurance:

> Many Americans, including many in rural communities, simply find that they cannot or are unwilling to pay for dental care in comparison to other needs and wants. Dental care is often viewed as a discretionary luxury by low income clients faced with competing priorities. We have not done a good job in making the public aware of the critical link between dental and general health. Also, dental insurance covers only about 110 million Americans who are insured mostly through their employers. For every child without medical insurance there are 2.6 without dental insurance, and for every adult without medical coverage, there are 3 without dental insurance. Even when insured, many Americans are underinsured – their insurance has annual dollar limits often unchanged from the 1980's, or limits on the types and amounts of services covered.

As of 1997, an estimated 48 percent of the U.S. population had some form of dental insurance coverage[2]. As is the case with general medical insurance, people who work for larger firms are more likely to have dental insurance coverage than those who work for smaller firms (Managed Care Task Force of the American Dental Association 1998). Full-time workers are more likely to have dental insurance than part-time workers (U.S. Department of Health and Human Services 2000). Although we do not have information on the dental health insurance status of Maine workers, we can presume that coverage follows the national pattern and is restricted primarily to people who have full-time jobs with the state's major employers. When dental insurance is offered, it is likely to have higher co-payments and deductibles than general health insurance (Mueller, Schur and Paramore 1998).

Medicare, the federal health insurance program for Americans age 65 and over, does not cover most dental care services (Drum, Chen and Duffy 1998). As an exception, Medicare will cover the costs of dental services for hospitalized patients with specific medical conditions, such as jaw fractures or oral cancers (U.S. Department of Health and Human Services 2000). Many private dental insurance programs are employment benefits and do not continue into retirement. We can assume then that many retirement-age individuals are without coverage for dental care. Aggregated data from the 1995-97 Behavioral Risk Factor Surveillance System (BRFSS) indicate that nearly 85 percent of Maine seniors aged 65 and older have no dental insurance (Janes, et al. 1999). Thus most Maine seniors pay fee-for-service for needed dental care, including preventive services, or do without.

For Maine people without insurance, who are underinsured for dental care, or for adults who are eligible for Medicaid, financial access to dental services may be a serious challenge. Competing needs and priorities are often particularly acute for this broad group of people. Dentists in private practice do not routinely offer payment plans. It is difficult to separate the

issue of financial access for adults from geographic access and the limitations imposed by Maine's public health infrastructure. As noted in this report's section on oral health status, adults who call or write to state agencies seeking help in finding dental care usually ask about sources of financial assistance or ask for help in finding a dentist or dental clinic they can afford. Many adults, particularly working age adults, are not eligible for Medicaid (see description below). Even when they are, covered services are limited, so they need to have other resources for dental care. More so than children, it is this group of people who tend to "fall through the cracks." Maine has relatively few public or private non-profit dental centers (clinics) where patients may be seen regardless of their ability to pay, and where services are available on a sliding fee scale. These are described further in this report's section on oral health resources, and in this section's discussion of utilization of services.

Medicaid/Cub Care

While dental services under state Medicaid programs are "optional services," coverage of regular dental screenings and "medically necessary" treatment for children is mandatory under Medicaid's federal Early Periodic Screening Diagnosis and Treatment (EPSDT) program[3]. The Maine legislature has chosen to cover routine and preventive dental services for children under 21. As a result of the Cub Care program, first implemented in 1998, the number of Medicaid eligible children has increased substantially. However, eligibility for Medicaid/Cub Care does not necessarily translate into access to dental services, as is discussed further below.

Adult dental services are covered only under certain urgent care guidelines, or only when it can be demonstrated the service is cost effective with respect to other covered Medicaid services. For a short time in the early 1990's, Maine expanded coverage for adult dentures. Demand quickly exceeded funds, resulting in a termination of this coverage after less than two years. Medicaid recipients residing in intermediate care facilities for mental retardation are eligible for the same comprehensive services as children under 21, except orthodontics.

As is the case in many other states, the ability of Maine's Medicaid/Cub Care program to improve access to dental care is constrained by a shortage of practicing dentists and by the limited number of dentists accepting Medicaid/Cub Care patients and reimbursement[4]. When private dental practices are operating at capacity, new patient slots may be hard to come by, and dentists may select the patients to whom those openings are given. The limited supply of dentists in Maine, discussed further in this report's section on oral health resources, appears to be having an impact on access to dental care for Medicaid/Cub Care recipients but increasingly on the general population as well, at least in some areas of the State.

A national 1996 report looked at children's access to and utilization of Medicaid dental services (Office of Inspector General 1996). Eighty percent of states found a shortage in the number of dentists willing to participate in the Medicaid program. States reported that "inadequate reimbursement is the most significant reason why." Fees are often cited by Maine dentists as highly problematic for their participation in Medicaid/Cub Care. In spite of recent changes in Maine Medicaid (described below), reimbursement rates continue significantly below market levels and for many dentists do not cover the direct costs of providing care.

Although the primary reason for lack of provider participation would appear to be the Medicaid fee structure, Maine fees are approximately at the median range when compared to other states (Myers and Stauffer 2000). In addition, informal surveys by Bureau of Medical Services staff indicate that fees are just one of many reasons for provider non-participation. A

change is fees alone is not likely to result in substantial change. Other reasons include: patient missed appointments, which cannot be reimbursed by Medicaid; overly burdensome Medicaid procedures and paperwork; low unemployment resulting in an increased demand for dental services by private pay clients; and stereotypes about Medicaid/Cub Care recipients. The issues of missed appointments and administrative procedures and paperwork in particular have been reiterated in many settings. All these issues are very much consistent with the experiences of other states.

In the past three to four years, the Maine Bureau of Medical Services has implemented a number of strategies in an effort to increase provider participation in Medicaid. These include: increasing provider reimbursement rates in 1998; revising the reimbursement claim form to make it compatible with other claim forms used by most dental offices; setting up a "hotline" for dentists to gain assistance with patients who miss appointments; and (in conjunction with its Dental Advisory Board) proposing to remove many existing prior authorization requirements for dental procedures. Through its managed care enrollment contractor, the Bureau of Medical Services calls all general dentists at certain intervals (see endnote #4 in this section) to check for the availability of openings for new patients. This information is used to assist patients seeking dental appointments, and also provides an opportunity to offer non-participating dentists updated information on the Medicaid program.

In addition, in November 2000, the Bureau of Medical Services initiated arrangements with the State Health & Environmental Testing Laboratory in the Bureau of Health to reimburse the lab for fluoride water testing for Medicaid/Cub Care-eligible families. Reimbursement of this expense can help to reduce barriers (increase access) for at-risk children by facilitating water testing for fluoride so that dietary supplements may be appropriately prescribed.

Maine obtains a favorable federal match of approximately 1 to 3, state to federal funding for Medicaid services, which includes Medicaid/Cub Care dental services. In state fiscal year 2000 (July 1999-June 2000), the combined federal and state dollars spent in Maine on Medicaid dental services for all age groups was $10.9 million.

Data comparing calendar year 1997 to 1998 and 1999 show that after the rate increase in 1998 there was only a small change in access if we consider the unduplicated number of individuals seen. Most of these were under age 21. For the first year, there was an estimated net increase in the number of clients of 4.0 percent; for the second year, the increase is 3.4 percent; and comparing 1999 to 1997, the increase in the number of patients seen is about 7 percent. But the number of actively participating dental providers – those who receive payment for services – decreased. Table 4 compares the three years.

Table 4. Comparison of Selected Medicaid Data for the Two Calendar Years After the Rate Increase and The Year Preceding

	1999*	1998	1997
Total Dollars Paid to Date	$9,733,320.83	$9,576,309.67	$4,944,783.51
# of dental providers who received payment	308	324	335
Total # clients (unduplicated) who received services in year	44,602	43,093	41,389

*NOTE: Data based on fully adjudicated claims through January 31, 2000. Providers have up to 12 months to bill but the great majority bill within 30 days, so the 1999 figures, although not final, are close estimates.

SOURCE: Maine Medicaid Program, Bureau of Medical Services, February 2000.

Geographic Access

Geographic access simply refers to people's ability to travel to dental care providers in a reasonable amount of time. Because Maine is a big and largely rural state with a limited number of dental care providers, geographic access is a problem for many of the state's residents. This problem is compounded by several other factors, including but not limited to:

- Lack of public transportation in all but a few communities;
- Limited availability of dental specialists, such as endodontists, orthodontists and pediatric dentists, in many parts of the state; and
- Travel problems related to road conditions in inclement weather.

Geographic access issues are not the same as the issues raised by consideration of oral health resources – that is, the number and distribution of dental professionals and the systems and infrastructure that support the delivery of oral health services. These issues are addressed in this report's section on oral health resources in Maine.

Access Issues for Selected Populations

An earlier section of this report discussed issues related to oral health status. In this section, the focus is on characteristics of these populations that specifically affect their ability to obtain access – that is, to utilize – oral health services.

Children and Adolescents

A number of factors affect children's and adolescents' need for and ability to access oral health services (Crall 1997). In the first place, they are still developing, so their oral health requires periodic monitoring. Of particular concern are the prevention and treatment of caries (cavities) and malocclusion (improper bite). The American Academy of Pediatric Dentists (AAPD) recommends that all children have their first oral health screening prior to their first birthday (Office of Inspector General 1996).

For the most part, children and adolescents are dependent on their primary caregivers (parents or guardians) to make sure they receive needed oral health care. Estimates from the 1997 Survey of America's Families indicate that children with less-educated primary caregivers are less likely to receive recommended minimum levels of oral health care (Kenney, Ko and Ormond 2000). Other studies have found that children whose parents were recent immigrants to the United States or who were members of racial and ethnic minorities were also less likely to have received appropriate dental care (Milgrom, et al. 1998). In general, it appears as though low-income families do not give oral health services a high priority (Office of Inspector General 1996), but at the same time it seems clear that this characteristic is influenced also by competing needs and priorities.

A 1997 Maine survey found that approximately 10 percent of Maine children did not have health insurance coverage, and that the majority of uninsured children were in families with working parents (Kilbreth and Agger 1997). Uninsured children were less likely to have a regular dentist, or to have had a dental visit in the last year, than low-income, privately insured children. More specifically, 37 percent of families with uninsured children did not have a regular source of dental care for their children, compared to 20 percent of families whose children were insured. The implementation of Cub Care, Maine's State Children's Health Insurance Program, has provided many more of these children with health insurance coverage, but its impact on those children's access to dental services cannot be easily estimated. As noted above, eligibility for Medicaid/Cub Care does not necessarily translate into access to dental services and a regular source of dental care.

Because a substantial proportion of children and adolescents live in low-income households, their ability to access needed oral health services is affected by these characteristics. For example, the Surgeon General's Report on Oral Health (2000) notes that 25 percent of low-income children have not seen a dentist before entering kindergarten. A study of low-income children participating in a preventive services program found that children eligible for the EPSDT (Early and Periodic Screening, Diagnosis and Treatment) Program were substantially more likely than low-income children with no health insurance to be "on schedule" for preventive dental visits (Clarridge, Larson and Newman 1993). However, an analysis of 1995 Medicaid claims data from 27 state Medicaid programs showed that only about one-third of children enrolled in Medicaid fee-for-service plans had seen a dentist in the last year (U.S. General Accounting Office 2000a). Maine-specific data from this survey show a higher utilization rate of 41.4 percent. The 1999 Maine State Smile Survey found that 73.1 percent of the kindergarten children screened and 82.4 percent of third-graders screened had had a dental visit in the past year. However, 14.8 percent of the kindergarten children screened had never been to a dentist. While Smile Survey data may seem to compare favorably with the numbers from the Surgeon General's Report, it must be noted that it includes all children, not just those from low-income families, and the last item – kindergarten children who have never seen a dentist – is much too high.

Adults

As noted earlier in this section, Maine Medicaid does not cover routine dental services for adults. However, an analysis of 1995 claims data for Medicaid fee-for service programs in 18 states that cover adult dental services found that less than one-third of adult Medicaid beneficiaries had visited a dentist in the past year (U.S. General Accounting Office 2000a). By contrast, 1996 national survey data found that 44 percent of adults in the general population had visited a dentist in the previous year. Aggregated data from the 1995-97 Behavioral Risk Factor Surveillance System (BRFSS) indicate that, in Maine, just 38 percent of adults with annual household incomes of less than $15,000 had a dental visit in the previous year. This proportion increases to only 58 percent for adults with annual household incomes in the $15,000-$34,999 income range and to 77 percent for those with annual incomes of $35,000 or higher (U.S. General Accounting Office 2000a). This means that 62 percent of those in the lowest income group and 42 percent of those in the middle group reported not having had a dental visit in the previous year.

Seniors

Seniors living independently in the community typically experience three major barriers to accessing oral health care (Dolan and Atchison 1993). These are lack of awareness that they have oral health needs, concerns about the cost of needed care and inability to obtain transportation to get to the dentist's office. These problems are compounded for homebound seniors who require additional assistance. Although the 1987 Omnibus Budget Reconciliation Act (OBRA) included provisions requiring nursing facilities receiving Medicaid and Medicare reimbursement to offer dental care for their residents, payment for these services is still left up to the residents or their family members[5]. Aggregated data from the 1995-1997 Behavioral Risk Factor Surveillance System (BRFSS) suggest that less than half (47.7 percent) of Maine seniors in this age group visited a dentist in the last year (Janes, et al. 1999). The national median score for this health protective behavior was 59.1 percent, substantially higher than Maine.

Other Special Populations

Access to oral health services for racial and ethnic minorities, refugees and migrant workers is a major national issue, and is noted clearly in the recent Surgeon General's Report

on Oral Health (U.S. Department of Health and Human Services 2000). In Maine, where these population groups are still relatively small, this is still an emerging issue, albeit potentially a major one, and certainly already a concern in several cities and towns.

Another special population is persons with physical, mental or developmental disabilities. For a variety of reasons, these individuals experience a greater prevalence of oral disease than the general population and thus require more frequent and extensive interventions. Some of these individuals may need sedation or other special accommodations during dental treatment (U.S. General Accounting Office 2000b).

Another special needs population with potential oral health access issues is persons with AIDS or HIV infection. A national study of people with HIV found that their HIV positive status was less a barrier to obtaining needed oral health services than their income, education, or dental insurance status (Marcus et al. 2000).

Utilization of Oral Health Services

We can learn a great deal about access to oral health services by looking at patterns of utilization (use of existing services). Brown and Lazar (1999) define dental care utilization as the percent of the population who access dental services over a specified time period. Data from various surveys suggest that the percent of Americans who visited a dentist at least once in the last year increased steadily from 53.9 to 75.5 percent between 1983 and 1997 (Brown and Lazar 1999). Although the rates of women who visited a dentist at least once in the last year during this period were slightly higher than those of men, the differences do not appear to be significant. However, people aged 65 and over were substantially *less* likely to have made a visit to a dentist in the past year. Likewise, people with lower incomes and lower educational status were also *less* likely to have visited a dentist in the past year. At least one study found that having a usual source of dental care is positively associated with having a dental visit in the last year (Davidson, et al. 1999).

The 1999 BRFSS asked respondents questions about the length of time since their last dental visit and since their last dental cleaning. Regular dental visits and cleanings are indicators that may be used to assess the degree of available access to oral health services. About two-thirds of Maine adults reported a dental visit within the past year. About 16 percent reported 5 or more years since their last dental visit. This finding appears consistent with national data; however, a number of health providers feel that it may overestimate the proportion of Maine adults who seek dental care. The proportion of people reporting a dental visit in the last year decreases with age, and is lower for men in the younger age groups than for women; this proportion also increases with higher income levels and with education. About 72 percent of Maine adults reported a dental cleaning within the past year (ranging from 68 percent to 76 percent depending on age); the proportion also increases with income and education. About 12 percent said it had been 5 years or more since their last dental cleaning.

The section of this report on oral health resources in Maine refers to a mail survey of dental clinics conducted in November 2000. This survey found that these dental clinics and health centers provide services to about 28,000 Maine residents annually, many of who are Medicaid/Cub Care recipients. All of these facilities provide services on sliding fee scales, and health centers see all patients regardless of their ability to pay. These facilities report that patients may wait from as few as one to two weeks up to 16 to 20 or more weeks for a routine appointment. New patients may wait from 2 to 4 up to 12 to 20 weeks for an initial appointment. Overall, waits of 4 to 6 weeks or slightly longer appear to be the most common.

We can also learn about access to oral health services by looking at patterns of utilization of alternative services. For example, if people use hospital emergency departments as a resource for obtaining care for acute dental conditions, we can assume that more appropriate oral health care services are not available to them. These are assumed to exclude conditions related to trauma, such as those resulting from car accidents and requiring an oral surgeon. It should be noted that hospitals in Maine do not as a rule have general dentists on staff, so the treatment provided is generally of a palliative nature to reduce pain and infection only, and does not address the dental problem itself.

Table 5 shows utilization of one Maine hospital's emergency department for this purpose during a nine-month period in 1998. Perhaps the most significant information in this table is the substantial number of emergency department visits for treatment of gum abscesses. These painful infections are typically the result of caries that should have been treated at an earlier stage, before the decay progressed to the gumline. A second Maine hospital reported 1015 patients presenting at its emergency department during a 12-month period beginning at the end of September 1999. Of these patients, 452 or 44.5 percent presented with abscessed teeth and 349 (34.4 percent) with toothaches[6].

Table 5: Hospital Emergency Department Visits for Acute Dental Conditions, 1999

Diagnosis	Payment Source				
	Self-Pay	Medicaid	Medicare	Blue Cross	Other Third Party
Tooth eruption/teething	3	2	0	0	2
Dental caries	25	11	3	2	5
Acute or chronic periodontitis	81	43	7	11	29
Gum abcess	24	8	1	4	13
Chronic or acute gingivitis	1	1	0	0	2
Temporomandibular pain	2	5	0	1	3
Dental conditions not otherwise specified	38	35	8	7	17
Total all diagnoses	174	105	19	25	71

Source: Maine Coast Memorial Hospital, Ellsworth

IDEAL ACCESS STANDARDS FOR DENTAL CARE SERVICES

Dental care services should be geographically accessible; that is, services should be available within 30 minutes' travel time from the individual's residence.* The following may be used in determining distances corresponding to 30 minutes' travel time:

- Under normal conditions with primary roads available: 20 miles.
- In mountainous terrain or in areas with only secondary roads available: 15 miles
- In areas connected by interstate highways: 25 miles
- In urban areas, information on any available public transportation system should be used to determine the distance corresponding to 30 minutes' travel time.

Within this 30 minutes' travel time, the following conditions should allow for reasonable access. It is important to note that not all factors can be expected in all practices, but rather, they should be available in some practices in proportion to the need in the area. "Practice" includes private practices as well as the dental practices provided by non-profit dental health centers.

- One-third or more of the area's dentists should be accepting new patients.
- Services should be financially accessible to the total population, which means that services are accessible regardless of the patient's ability to pay. This would be demonstrated by the use of a sliding fee scale for individuals and families with incomes below 200 percent of the federal poverty level and who do not have dental insurance; the availability of a sliding fee scale should be posted in the service location.
- Services should be accessible without regard to payment source. This would also mean that Medicaid payment is accepted.

Services should be available in a timely manner, so that:

- Appointments for routine dental services should be available within no more than six weeks.
- Appointments for emergency dental services should be available within 24 hours.
- Waiting time in a dental office for scheduled appointments should be no more than ½ hour.

Services should be available for at least four hours per week outside the traditional office hours of Monday through Friday, 8:00 a.m. to 5:00 p.m.

Services should also be physically accessible and culturally acceptable to the individuals to be served.

SOURCE: proposed by the some members of the working group assisting with the preparation of this report. Not all members were in concurrence.[7]

*NOTE: The federal standard for travel time used in determining health professional shortage area designations is currently 40 minutes for dental services and 30 minutes for primary care medical services. If dental services are to be considered an equally important part of primary health care, the same standard should apply.

COMMENT: It is important to note that the Maine Dental Association encourages its members to participate in programs to increase access to care, but standards such as those offered here are not generally compatible with the delivery of dental services through private dental practices. How feasible or realistic it would be to set standards for *all* dental offices regarding sliding fee scales and other financial matters, or for travel time and hours of service, should be carefully considered. See endnote 7 for further discussion.

Endnotes, Access to and Utilization of Oral Health Services

[1] In some respects, this may be due to the fact that oral health is underrepresented in many of the federal agencies responsible for administering national health policy (Jones, 1998).

[2] Currently available options for dental insurance include indemnity, managed care and direct reimbursement.

[3] Orthodontic services are considered routine covered services for Maine children but are limited to those qualified under a standardized rating scale.

[4] A routine survey conducted in October 2000 by the State's managed care enrollment contractor found that 108 of the State's 393 general practice dentists were providing care for any Medicaid patients. Of these, only 41 indicated a willingness to accept new Medicaid patients. This is a "point-in-time" survey, so numbers may change from month to month.
NOTE: Every 45 days, the contractor calls every dental provided listed in its current resource guide. Every six months, all Medicaid dental providers not identified in the resource guide are called to check on whether they will agree to be listed, and if so, if they are taking new Medicaid patients. Previously, this was done quarterly. All non-participating dental providers are called annually.

[5] Nursing facility residents who have to pay part of their income to the facility can have that assessment reduced to allow money to pay for dental services as a non-covered Medicaid service.

[6] Correspondence from Roberta Ell, Administrative Secretary, Emergency Medical Services, Eastern Maine Medical Center, Bangor, December 2000. (Provided to Mary N. Beer, Hancock County Dental Access Coalition, Ellsworth.)

[7] The following are excerpts from comments provided by the Executive Board of the Maine Dental Association:

> The MDA encourages its members to participate in programs to increase access to care, and the Association as a whole has developed initiatives to address some of the complex issues related to access. However, we feel it is unrealistic to set a "standard" that all dental offices would offer a sliding fee scale and post the availability of such. This standard would require that private dental offices set up a system to screen and monitor financial information on all families, a process that would be far too complex and costly from an administrative standpoint, and is frankly not in the realm of services that a private, fee-for-service dental practice would provide.
>
> The proposed standard also seems to mandate acceptance of Medicaid [patients]. The MDA hopes that improvements in the current Medicaid dental program will generate more dentist-providers. However, the MDA has long opposed mandating acceptance of Medicaid patients, instead of supporting the right of the individual dentist to make the decision to be a participating provider or not, depending on the individual's circumstances.
>
> Finally, we feel that the standards for travel time to a dental office and hours of service available are not realistic for the State of Maine. The reality of living in Maine, especially in rural areas, is that we routinely travel long distances for many day-to-day activities – healthcare, shopping, recreation, and even school attendance for our young people. Expecting dental offices to provide routine services outside traditional office hours also seems unlikely and unnecessary. Market forces and a dentist's personal practice philosophy should be the determining factors in how and when an office is open.

ORAL HEALTH RESOURCES IN MAINE

Overview

In Maine, most oral health care is provided by professionals (including dentists, dental hygienists and dental assistants) working in private, independent solo or small group practice settings[1]. Other sources of oral health care include freestanding dental clinics, dental clinics operated by community health centers, school-based screening and sealant programs and some programs for special needs populations. In general, available resources are not adequate to meet the needs of the state's population. When this workforce and infrastructure concern is considered with financial and geographic access issues, the needs of uninsured and low-income people in Maine are magnified, but sufficient access to oral health services for all Maine people may be at risk. The following specific problems support this statement:

- At 2,138 persons per dentist (46.8 dentists per 100,000 people), Maine's dental resource is substantially lower than the national average (58.3 dentists per 100,000 people) . This problem is further compounded by the uneven distribution of dentists in relation to the state's population and by an acute shortage of particular dental specialties.

- The problem of low numbers and maldistribution becomes even more acute when the focus shifts to dentists who specialize in particular kinds of procedures, such as endodontics or pediatric dentistry. Residents of many Maine counties who need specialty oral health care face substantial geographic barriers to obtaining that care.

- Maine's infrastructure for oral health is minimal, with only 13 public and private non-profit dental centers (clinics) providing services to about 28,000 people across the state. There are dental services provided to current and past clients of the Department of Mental Health, Mental Retardation and Substance Abuse Services in Portland, Augusta and Bangor, and the Indian Health Service operates three tribal dental clinics in Maine. As a safety net for oral health, Maine's infrastructure is very vulnerable.

Workforce

Workforce refers to the professionals trained and licensed to provide different oral health care interventions. These include dentists, dental hygienists, dental assistants and dental radiographers. The most widely used method of measuring workforce capacity is calculating the ratio between the number of professionals and the population in need of services[2]. Despite its widespread use, this measure is of somewhat limited value in determining access because it does not take into account factors such as productivity, location of practice relative to underserved populations or financial accessibility to low income populations (U.S. Department of Health and Human Services 2000). It is also important to note that there are currently no standards regarding oral health professional to population ratios that are considered *desirable* to assure access to oral health care[3].

Dentists

In order to obtain a license to practice dentistry in Maine, an individual must have graduated from an accredited U.S. dental school, passed a national written examination, successfully completed the Northeast Regional Board Dental examination, and successfully completed the jurisprudence examination given by the Maine State Board of Dental Examiners (Board of Dental Examiners 2000). A personal interview may also be required. Although the Board of Dental Examiners has minimal requirements for dentists who come to Maine with five or more years of practice experience, dentists with less than five years practice experience in

other states who wish to practice dentistry in Maine may be required to take the Northeast Regional Board examination. This requirement in particular may be a barrier for some dentists in deciding to relocate to Maine.

The ratio of dentists to population in the United States is on the decline from its recorded high of 59.1 per 100,000 (1,692 persons per dentist) in 1990 to an estimated 58.3 per 100,000 (1,715 persons per dentist) in 2000 (U.S. Department of Health and Human Services 2000). This is a consequence of larger numbers of dentists retiring or otherwise leaving practice than are entering practice. After increasing by nearly 100 percent between 1989 and 1997, the number of individuals applying to dental schools has been on the decline. During the 1980s and early 1990s, six U.S. dental schools closed outright, while many others reduced class sizes (Field 1995). The combination of diminishing numbers of dentists with the "aging out" of those remaining in practice gives serious cause for concern. While there is no benchmark for comparison, there is increasing discussion of a national shortage of dentists.

At 2,138 persons per dentist (46.8 dentists per 100,000 people) as of 1998, Maine's dental resource is substantially lower than the national average[4]. This problem is further compounded by the uneven distribution of dentists in relation to the state's population. Table 6 shows the statewide and county-level population to dentist ratios for Maine. While shortages are particularly acute in Somerset and Waldo counties, all but two of Maine's counties have rates of dentists per 100,000 people that are substantially lower than the national average. The table in the Appendix titled Dentists and FTE Dentists by Dental Care Analysis Area makes the picture even more dramatic; see also the maps showing the locations of dentists. In this table, the rates of people per dentist and dentists per 100,000 people have been adjusted to take into account the number of hours per week each dentist works in direct patient care, where 40 hours a week is counted as one full-time equivalent (FTE). This adjustment drops the total available number of dentists from 481 to 365, or 3,320 persons per one FTE dentist. This table also indicates that at a minimum, there are 176,938 people living in areas that have received federal designations as Dental Health Professional Shortage Areas, and another 158,044 living in areas for which requests for this designation are to be submitted early in 2001.

Nearly a quarter of Maine's dentists were aged 55 or over at the time the 1998 state licensure survey was administered. About two-thirds were aged 45 or over, while less than seven percent were under the age of 35. Data from earlier surveys in the same series indicate that, as recently as 1994, thirteen percent of the state's dentists were under age 35 (Office of Data, Research and Vital Statistics 1999a). These data suggest that, as many of the state's older dentists retire from active practice, younger dentists are not becoming available to replace them. There is no dental school in Maine, so dentists are either Maine residents returning home to practice or those who choose to relocate in Maine. (See the fact sheets on dentists in the Appendix.)

The problem of low numbers and maldistribution becomes even more acute when the focus shifts to dentists who specialize in particular kinds of procedures, such as endodontics, or special population groups, like pediatric dentistry. Table 7 shows the distribution of dentists by primary specialty in Maine's counties. These specialty designations are based on responses to the licensing survey and do not reflect board certification. The specialty designation is that chosen by the dentist or is based on the number of hours he or she reported spending on providing care in that specialty. For example, although 1998 data shows that 13 dentists were classified as pediatric specialists, only 7 dentists in Maine have

advanced training in this specialty. It is evident that residents of many Maine counties who need specialty dental care face substantial geographic barriers to obtaining that care.

As of 1998, graduates of U.S. dental schools had incurred an average of $84,000 in educational debt, more than that carried by medical school graduates (U.S. Department of Health and Human Services 2000). However, a telephone survey conducted by staff from the Finance Authority of Maine in November 2000 found the median debt load carried by students graduating from Tufts Dental School in 2000 was $143,300, not including unsubsidized loan interest. Specialty training and the costs of setting up a practice increase that indebtedness. These costs may act as a deterrent to people entering the profession. They also may have a considerable influence on choices regarding practice location and the mix of patients to be served.

Dental Hygienists

Like dentists, dental hygienists must complete training in an accredited program and pass both written and clinical examinations in order to be licensed. Dental hygienists carry out a number of specific procedures, including dental prophylaxis (cleaning) and oral inspections, applying sealants and fluoride, and taking radiographs (X-rays) among others (Board of Dental Examiners 2000). Like many states, Maine requires that hygienists work under the general supervision of dentists when they are performing certain procedures, and direct supervision for others. (Board of Dental Examiners 2000; Field 1995). "Direct supervision" covers procedures of a more specialized nature, and requires that the dentist is in the dental office at the time the duties are being performed; under "general supervision," the dentist need not be in the office at the time the procedures are being performed on a patient of record.

Maine has a third category of supervision, "Public Health Supervision," added in 1995 to facilitate hygienists practicing in certain settings such as schools, hospitals, custodial care institutions or other non-traditional practice settings, provided that services are provided under the general supervision of a dentist. This status has been utilized, for example, by hygienists providing dental sealants in school-based programs, or providing oral screenings at community events. The Board considers several criteria in deciding whether to approve Public Health Supervision status: the proposed program is necessary to fulfill a need not currently being met; the particular proposed practice setting and the proposed supervisor, will be adequate to accomplish the goal; appropriate public health guidelines can be followed in the proposed setting; adequate standards of care can be maintained in the proposed practice setting; and a supervising dentist is available.

After declining during the late 1970s and early 1980s, the total number of dental hygiene students in the U.S. has increased by nearly 20 percent since 1990 (U.S. Department of Health and Human Services 2000). As of 1999 (the most recent year for which data were available), of over 900 licensed dental hygienists, 715 were engaged in active practice in Maine (Office of Data, Research and Vital Statistics 1999b). This translates into a statewide ratio of 1 hygienist for every 1737 residents or 57.6 hygienists per 100,000 individuals. Table 8 shows the county-level variations in these rates. (See also the map and fact sheet on dental hygienists in the Appendix.) At the time this survey was completed, three quarters of the hygienists who responded were younger than 45 years old, so this professional group does not seem to be experiencing the "aging-out" problem observed among the state's dentists. On the other hand, anecdotal evidence suggests that many dentists are having difficulty finding hygienists to work in their practices.

Table 6: Active Dentists in Maine Counties as of January 1, 1998

County	Number of dentists	1997 estimated population	Population per dentist	Dentists per 100,000 people	2000 designated Dental Health Professional Shortage Areas
Androscoggin	48	101,045	2105	47.5	Jay-Livermore service area
Aroostook	26	77,094	2965	33.7	Allagash, Danforth and Fort Kent service areas; Presque Isle service area low income populations
Cumberland	180	251,438	1397	71.6	Portland low income population
Franklin	11	29,015	2638	37.9	Jay-Livermore and Rangeley-Kingsfield service areas; Farmington service area low income population
Hancock	20	49,638	2482	40.3	Bucksport, Gouldsboro and Ellsworth service area low income populations
Kennebec	62	115,885	1869	53.5	Jay-Livermore service area; Farmington and Waterville service area low income populations
Knox	23	37,543	1632	61.3	Penobscot Bay service area
Lincoln	14	31,601	2257	44.3	No currently designated shortage areas
Oxford	17	53,776	3163	31.6	Jay-Livermore and Rangeley-Kingsfield service areas
Penobscot	64	143,300	2239	44.7	Danforth service area
Piscataquis	6	18,315	3053	32.8	Bingham service area; Skowhegan service area low income population
Sagadahoc	14	35,663	2547	39.3	No currently designated shortage areas
Somerset	14	52,220	3730	26.8	Bingham and Jackman service areas; Skowhegan and Waterville service area low income populations
Waldo	9	36,020	4002	25.0	Belfast, Bucksport and Waterville service area low income populations
Washington	11	35,986	3271	30.6	Danforth and Eastport-Lubec service areas; Calais, Gouldsboro and Machias-Jonesport service area low income populations
York	62	173,512	2799	35.7	No currently designated shortage areas
State total	581	1,242,051	2138	46.8	

Sources: Maine Department of Human Services, Office of Data, Research and Vital Statistics
U.S. Department of Health and Human Services, Health Resources and Services Administration
NOTE: Data presented at county level by convention. Service use patterns do not necessarily relate to county boundaries.

Table 7: Active Dentists in Maine Counties by Primary Specialty as of January 1, 1998

County	Primary Specialty							
	General Practice	Endo-dontics	Oral Surgery	Perio-dontics	Ortho-dontics	Prostho-dontics	Pediatric Dentistry	Not known
Androscoggin	33	0	6	0	2	1	3	3
Aroostook	14	0	2	0	4	1	1	4
Cumberland	110	9	13	11	11	6	5	15
Franklin	8	0	0	0	0	0	1	2
Hancock	16	0	0	0	1	0	1	2
Kennebec	41	3	4	1	6	2	1	4
Knox	13	2	2	0	2	0	0	4
Lincoln	12	1	0	0	1	0	0	0
Oxford	10	1	0	0	0	0	0	6
Penobscot	45	1	4	2	4	0	1	7
Piscataquis	5	0	0	0	0	0	0	1
Sagadahoc	11	0	2	0	1	0	0	0
Somerset	11	0	0	0	1	1	0	1
Waldo	7	0	0	0	0	0	0	2
Washington	10	0	0	0	0	0	0	1
York	47	2	3	2	2	1	0	5
State total	393	19	36	16	35	12	13	57

Source: Maine Department of Human Services, Office of Data, Research and Vital Statistics
NOTE 1: Data presented at county level by convention. Service use patterns do not necessarily relate to county boundaries.
NOTE 2: Specialties given refer to practice activity and not necessarily to board certification.

In the second session of the 119th Maine Legislature, the Health and Human Services Committee heard a bill that among other considerations proposed changes in the supervision of dental hygienists. As a result, in April 1999, Governor King signed Ch. 104, Resolves, directing the Board of Dental Examiners to amend the rule regarding public health supervision of dental hygienists in order to provide less restrictive public health supervision. The purpose of the rule change is to encourage greater utilization of hygienists in institutional, public health and other settings outside a dental office. The new rule should go into effect during the winter of 2001. It will further define the settings for public health supervision, the roles and responsibilities of a supervising dentist and a hygienist practicing under this status, the application and approval process, and reporting requirements. The rule also will clarify that hygienists working under public health supervision may be directly employed and compensated by the entity for which they provide services.

Maine has two professional schools of dental hygiene, one administered by the University of Maine at Augusta at the University College campus in Bangor (UCB), and the other at the Westbrook College campus of the University of New England (UNE). Both programs offer 3-year associate's degree programs and baccalaureate degrees for students who complete a 4-year program. UCB graduates about 20 students a year, most of who are from northern Maine. A number of them are older students returning to school and many are

tied to the area, so the majority of these new professionals stay in Maine. Westbrook sees about 25 students a year graduate from the Associate Degree program. About two-thirds of these graduates stay in Maine. An additional 8 to 10 students graduate annually from the baccalaureate program and about half of them stay in Maine. [5]

Dental Assistants and Dental Radiographers

Dental assistants assist the dentist in the provision of direct care and may also maintain supplies and equipment in the operatory. Like dental hygienists, dental assistants can perform some duties only under the direct supervision of the dentist. In Maine, dental assistants are not licensed, although some may be certified. Certification is obtained by passing an examination administered by the Dental Assistants' National Board (Board of Dental Examiners 2000). Information on the number and distribution of dental assistants in Maine is not available.

Maine does offer provisions for the licensing of dental radiographers, who are able to take diagnostic X-rays of the teeth and mouth. This specialized function can also be performed by dental hygienists, who are licensed as radiographers as a component of their own licensure. According to the Board of Dental Examiners, in December 2000 there were 901 individuals licensed dental radiographers in Maine; it is assumed that the great majority of these individuals, if not all, are working as dental assistants.

Table 8: Active Dental Hygienists in Maine Counties as of January 1, 1999

County	Number of Hygienists	1997 estimated population	Population per hygienist	Hygienists per 100,000 people
Androscoggin	49	101,045	2062	48.5
Aroostook	28	77,094	2753	36.3
Cumberland	247	251,438	1018	98.2
Franklin	12	29,015	2418	41.4
Hancock	25	49,638	1986	50.4
Kennebec	65	115,885	1783	56.1
Knox	23	37,543	1632	61.3
Lincoln	14	31,601	2257	44.3
Oxford	19	53,776	2830	35.3
Penobscot	101	143,300	1419	70.5
Piscataquis	11	18,315	1665	60.1
Sagadahoc	16	35,663	2229	44.9
Somerset	12	52,220	4352	23.0
Waldo	10	36,020	3602	27.8
Washington	12	35,986	2999	33.3
York	71	173,512	2444	40.9
State total	715	1,242,051	1737	57.6

Source: Maine Department of Human Services, Office of Data, Research and Vital Statistics
NOTE: Data presented at county level by convention. Service use patterns do not necessarily relate to county boundaries.

Denturists

There are a small number of denturists in Maine. Denturists are trained to take impressions in order to make, construct, finish, alter, or repair dentures; they may also fit an upper or lower denture. Denturists may receive temporary permits from the Board of Dental Examiners to practice, provided they practice under the direct supervision of a dentist, and demonstrate to the Board that they have met a combination of a minimum of 10 years of training and experience in denture mechanics or technology or as a denture laboratory technician. Denturists may be licensed by the Board upon the successful completion of a written application and examination; they may also be issued a license by the Board upon proof of a previous license and active practice in another state or a Canadian province for 5 years, as long as licensure requirements are at least equivalent to those set by the State of Maine. (Board of Dental Examiners 2000).

Other professionals

Primary care practitioners (including physicians, physician assistants, nurse practitioners and certified nurse midwives) have a significant role to play in screening for oral disease in their patients who might otherwise not obtain care from a dentist (Drum, Chen and Duffy 1998). Other individuals often in contact with low-income children and adults, including public health nurses, school nurses, day care workers, schoolteachers and workers in long-term care facilities could also play a role in identification and referral. This suggests the necessity for these professionals to have some training in identifying common oral health problems, familiarity with local oral health resources and assistance with helping their patients access these resources.

Clinical specialists including oral and maxillofacial surgeons, plastic surgeons, neurologists and speech pathologists may be involved in the treatment of conditions related to oral health, such as injuries, developmental anomalies, infectious diseases and cancers of the lip and mouth (U.S. Department of Health and Human Services 2000).

Federal and state policies affecting oral health workforce supply and other related issues

Since 1978, the federal government has provided support for dentists to practice in underserved areas through the National Health Service Corps (NHSC) scholarship and loan repayment programs. In 1989, Maine established the Maine State Loan Repayment Program, which is funded 50 percent by the NHSC and 50 percent by the state. The current annual funding for this program is $200,000. Dentists can receive up to $80,000 in loan repayments over a 4-year obligation period. The minimum obligation is 2 years. In exchange for the loan repayment money, participants are required to practice full time (40 hours a week) in a designated Dental Health Professional Shortage Area and see patients regardless of their ability to pay for care. As of 1992, dental hygienists were also eligible to participate in the federal loan repayment program. At the end of FFY 1999, 299 NHSC dentists were practicing in underserved areas around the U.S (U.S. General Accounting Office 2000b).

For a number of reasons, there are far more shortage areas than there are dentists and hygienists to fill them. In the first place, not enough of these clinicians choose to participate in NHSC programs. Secondly, the NHSC's resources are limited and historically have been primarily focused on supporting primary care physicians. Finally, NHSC policy requires that practitioners be placed in sites that are part of an organized system of care, which can include a community health center, a dental clinic, or a private practice (Bureau of Primary Health Care 1999).

As of December 2000, 20 out of 46 Dental Care Analysis Areas in Maine were designated Dental Health Professional Shortage Areas (DHPSAs)[6] (Health Resources and Services Administration 2000). Of these, 10 areas had DHPSA designations for their low-income populations. These areas are listed in the table in the Appendix titled Dentists and FTE Dentists by Dental Care Analysis Area. The Augusta and Bangor Mental Health Institutes are also designated as facility-level DHPSAs. As of October 2000, Maine had two dentists supplied by the NHSC, one working in Waterville and another covering the populations of the Augusta and Bangor Mental Health Institutes. One NHSC hygienist is working in the Aroostook County town of Ashland.

In June 1999, the Maine Legislature approved and funded the Maine Dental Education Loan Program. Initially supported with general fund monies, the program has been supported by the Maine Tobacco Settlement since July 2000 and is administered by the Finance Authority of Maine (FAME). Funds were then allocated to support up to three dentists or dental students at a time with loans of $20,000 each.[7] Loan recipients must agree to practice in a state-designated underserved area and in a dental practice or facility that accepts patients regardless of their ability to pay for services. Their service obligations cover the same number of years for which they received program support.

In addition, the Bureau of Health Professions in the U.S. Department of Health and Human Services funds public health, pediatric and general dental residencies as well as general dentistry education programs. For the dental public health residencies, programs can receive up to $400,000 per year for three years (Finance Authority of Maine 1999). In order to be eligible, the residency must be affiliated with a dental school. The next cycle of awards through this program will not be available until 2003. In July 2000, the Bureau of Health Professions issued a call for applications for up to twelve three-year awards to support the development and operation of pediatric and general dental residency programs. Under the general dentistry education program, accredited schools can receive up to $120,000 a year for up to three years. In some cases, funding is available to programs for longer periods of time.

Although Maine has no dental school or dental residency at present, these resources may facilitate the establishment of an accredited Advanced Education in General Dentistry program in the state. In a 1999 report to the Legislature, the Finance Authority of Maine recommended "...that the State should undertake the preparation of a...plan to start a dental residency as part of the comprehensive approach to increase dental professionals and access to dental care in Maine."

It is important to note that to some extent there is a cyclical aspect to the issue of a shortage of dental professionals. As noted in recent newspaper articles (see *Kennebec Journal* article in Appendix), the apparent shortage of dental professionals is to some extent aggravated by an increased demand for services that can be related to good economic times. This observation in no way should be taken to discount the impact of the workforce concerns discussed here, however, since Maine's needs and predominantly rural nature are most likely stronger factors at this time. Because of these factors along with economic cycles and their effect on demand for dental services, an emphasis on preventive dental care should be maintained and increased.

Other Oral Health Providers and Safety Net Services

There are presently (December 2000) eight non-profit dental clinics providing services, and four community health centers that provide dental care with another scheduled to start up early in 2001. These providers are not well distributed geographically: they are located in

Ashland, Bangor, Eastport, Lubec, Harrington, Bucksport, Waterville, Bath, Farmington, Auburn, Portland, Saco and Sanford. Estimates are that together they serve about 28,000 individuals. (See the list of health centers and dental clinics in the Appendix.)

Freestanding dental clinics

At present, Maine has eight non-profit dental clinics; five are administered by one agency, one by a municipal government, one by a social services agency, and one is administered by a community board. Seven of these responded to a mail survey administered by the Bureau of Health's Oral Health Program in November 2000. Their responses indicate that they provide preventive and basic dental health care to over 20,000 Maine residents, many of whom are Medicaid/Cub Care recipients. All of these facilities provide services on a sliding fee scale to people who do not have dental insurance.

Two other community-based programs use volunteer centered models, providing dental services to patients either at a local dental clinic or using participating volunteer dentists' offices. A third such program plans to initiate services in the spring of 2001. An additional dental clinic, staffed by volunteer dentists, focuses on the provision of services to homeless and medically indigent persons.

Dental services in community health centers

Federally funded Community and Migrant Health Centers are required as a condition of their grant support to provide or arrange for oral health screenings for children and other preventive dental services (U.S. General Accounting Office 2000b). However, the Bureau of Primary Health Care has historically provided limited funding to establish and support dental practices in these settings. These practices must see all patients regardless of their ability to pay, and in areas where few people have dental insurance, such practices can be very expensive to maintain. This, then, can also be an issue of financial access.

As of November 2000, four of Maine's community health centers directly provided preventive and basic dental care to their patients. Responses to the Bureau of Health survey referenced in the preceding section indicate that the dental services offered by these providers reach nearly 8,000 Maine residents, many of whom are Medicaid/Cub Care recipients. A fifth health center began providing services early in 2001.

The Indian Health Service also operates three tribal dental clinics in Maine.

School-based programs

For the past 25 to 30 years, the Bureau of Health has sponsored school-based dental health education programs in elementary schools. Currently, the Maine Oral Health Program supports the School Oral Health Program (SOHP), an education and fluoride program for elementary schools, with a voluntary dental sealant component added in the 1998-99 school year. The SOHP currently (2000-2001 school year) provides 81 small grants (ranging from $142 to $8,502) to schools, school districts, or agencies acting on behalf of schools, supporting the SOHP in 252 schools in all 16 Maine counties, reaching about 50,000 children. Approximately three-quarters of the children participate in the fluoride mouth rinse component of the SOHP. (A listing of the SOHP schools for the current school year is included in the Appendix.) During the 1999-2000 school year, 37 schools added the sealant component, providing free sealants to second-graders. An additional 12 schools provided sealants to second-graders through the Oral Health Program's federally-funded Maine Dental Sealant Project (now in the second year of a three-year grant). During the 2000-2001 school year, the Oral Health Program expects a total of 82 schools to provide dental sealants through either the

regular SOHP or the federally funded project. Funding limitations may restrict further expansion of the School Oral Health Program.

Services for special populations

Maine provides oral health services for special populations on a limited basis. The Maine Department of Mental Health, Mental Retardation and Substance Abuse Services (DMHMRSAS) provides clinical dental services at facilities in Portland, Augusta and Bangor to current and past clients. The state's Children with Special Health Needs Program facilitates provision of dental services for cleft palate clients through its care coordination function. Advocacy groups for special populations commonly report that their clients and constituents experience difficulty in accessing needed dental services, particularly when clients are Medicaid-eligible, uninsured for dental care, or have very particular needs (such as adults with mental illness concerns who have not been DMHMRSAS clients). However, there is little data available on these populations.

Safety Net Services

In a November 15, 2000 teleconference on access to dental care in rural areas sponsored by the National Rural Development Partnership (NRDP) Healthcare Taskforce, Don Schneider, DDS, MPH, the Chief Dental Officer for the Health Care Financing Administration (HCFA), discussed the concept of a dental "safety net." He commented as follows:

> The "safety net" has been an important stopgap source of dental care for those without dental access. It consists mostly of Federally qualified health centers, community and rural health center clinics funded through the public and private sectors, local city and county health agency facilities, a few hospitals with dental departments, and dental school clinics both on-campus and off. But the dental safety net is not as strong as the medical safety net. Where health centers exist, many have no dental program, those that do may not be able to meet the dental demands of their current dental population, and clinic salary levels often are not competitive with private dentists' income, and thus are inadequate to attract a dwindling supply of dentists...Dental hygienists who might be able to provide preventive services in alternative delivery sites are also declining in number. They are also restricted by state dental practice acts in the scope of their practice and are unable by training to provide even routine [restorative] treatment services.

Clearly in Maine, the dental safety net is even more vulnerable – even fragile – than the national safety net described here. Maine has 29 community health centers, but only 4 (soon to be 5) provide dental care. We have 8 other dental clinics, one of which is municipally funded. There are no other city- or county-sponsored dental care facilities, and no hospitals with dental departments. Maine has no dental school. In the past few years, many of Maine's health center dental clinics and non-profit dental centers have experienced increasing difficulty in attracting and retaining dentists.

Endnotes, Oral Health Resources in Maine

[1] This pattern of service delivery is consistent with the rest of the U.S., where over ninety percent of dentists active in 1997 were in private practice and nearly ninety percent were in practices consisting of one or two dentists (U.S. Department of Health and Human Services 2000).

[2] Some sources use professionals per 100,000 population, others use population per professional. To facilitate comparability, this report includes both measures.

[3] The most widely used ratio is in the criteria for designation of Dental Health Professional Shortage Areas (DHPSAs), which suggest that one general practice dentist is needed for every 4,000-5,000 people, depending on the presence or absence of unusually high needs. This should be regarded as the absolute minimum resource needed.

[4] According to state health workforce profiles complied by the federal Health Resources and Services Administration using survey data from the American Dental Association, Maine ranked 28th out of the 50 U.S. states in terms of the number of dentists per 100,000 people.

[5] Data provided by officials at the University of Maine at Augusta and Westbrook College, personal communications.

[6] In addition to the areas and facilities currently designated, 18 additional areas have been identified as eligible for designation, and applications have been submitted to the Division of Shortage Designation of the federal Bureau of Primary Health Care.

[7] The original legislative proposal called for four loans to support up to four dentists or dental students at a time for up to four years each for an aggregate of 12 loans. Funding was only allocated to cover four slots. This funding has been targeted for cuts during the 2001 Legislative session, proposing to reduce funding, which would in turn reduce the number of slots to three.

CURRENT PROGRAMS AND ACTIVITIES

Overview

Many local and professional groups, as well as community and State agencies, including the Legislature, have already initiated activities intended to promote and improve oral health and to increase access to oral health services. These activities have resulted in policy changes at the state level and new statewide and local programs, albeit in the absence of a coordinated vision or a long-term statewide comprehensive plan. There are some community-based programs already in place that provide some measure of a safety net for oral health in Maine.

State Government

Medicaid/Cub Care

In January of 1998, the Department of Human Services raised rates of reimbursement for many dental procedures through the Medicaid Program to approximately 70 percent of the negotiated rate paid by a major dental insurer in the State. Changes to billing and coding procedures were also made at that time. Additional policy changes as well as fee adjustments and clarifications of some procedures were implemented effective August 1, 1999. These included changes in language related to services covered for adults; the inclusion of licensed denturists as Medicaid providers (for full dentures only); and the addition of reimbursement for behavior management and for oral health education.

Through the Early Periodic Screening Diagnosis and Treatment (EPSDT) Program, and in cooperation with its managed care contractor, HealthWorks, the Maine Medicaid Program has incorporated oral health guidelines into its "anticipatory guidance" or schedule of services for Medicaid recipients. Specific oral health information has been provided from time to time in regular mailings to parents of Medicaid-eligible children.

The Medicaid program also convened a Dental Advisory Board, which met first in 1998 and then on a regular basis since late in 1999. The Board, comprised of several dentists, all active Medicaid providers, and Bureau of Medical Services staff, has reviewed Medicaid's dental policy with a focus on simplifying administrative procedures and eliminating unnecessary steps, such as prior authorization requirements.

As a result of the attention given to the issue of access to preventive services potentially provided by dental hygienists, the Department of Human Services has also initiated procedural changes so that Maine's two dental hygiene schools can be reimbursed as Medicaid providers. Both schools provide clinical services to the general public during the academic year.

Legislative Action – Studies

In the First Regular Session of the 119th Legislature (1999), several proposals were heard, resulting in the following initiatives.

Two studies were authorized, one concerning the use of mobile units/dental vans to provide certain dental services in remote or underserved areas; and the other to assess the feasibility of establishing a dental residency program in Maine. This legislative action also called for an annual review of reimbursement rates in the Medicaid program, including additional reimbursement for high volume providers.

The study concerning mobile units has not been published. However, investigation of this approach suggests that fully equipped dental units (which resemble but are not identical to recreational vehicles) are very expensive not only to purchase but also to operate, staff, and maintain, particularly with Maine's climate and geography. Programs utilizing mobile units have had some success in areas of the country where these factors are not as important, and when the program's focus is on a certain segment of the population. Successful programs also tend to be sponsored and financially supported by an institution, such as a dental school or a hospital. Mobile units are also used with some success for intermittent programs, such as those provided by migrant health agencies. The long-term cost-effectiveness of using mobile units is a major consideration. Portable dentistry, which uses high quality equipment that can easily be transported and used within cooperating facilities (such as schools, nursing homes, community centers and even private homes) has a greater potential for successful, cost-effective application in Maine.

The Finance Authority of Maine was responsible for the *Dental Residency Feasibility Study*, which it submitted to the Committee on Health and Human Services in December 1999. This report recommended that Maine, with "a systemic problem in providing oral health care to its residents ...should undertake the preparation of a ...plan to start a dental residency as part of the comprehensive approach to increase dental professionals and access to dental care in Maine." The report suggests that a dental residency "has the potential to fit into a continuum of oral health care delivery in this state, which will improve access to dental care," and recommends that sufficient funds be appropriated for a formal feasibility study.

As directed, the Bureau of Medical Services has conducted an annual review of dental reimbursement rates in the Medicaid program.

Legislative Action – New Programs

A proposal was heard by the 119th Legislature to provide funds to (1) encourage the development or expansion of non-profit community-based oral health programs, (2) offset/subsidize sliding fee scales, and (3) provide case management and community education services. This was incorporated into the state budget document, with funding pending receipt of tobacco settlement money, and an effective date of July 1, 2000.

The intent of the Legislature in allocating these funds – a total of $1 million – is to encourage the development or expansion of community-operated, nonprofit oral health care programs that serve persons who are uninsured or underinsured for oral health care, and that serve persons whose oral health care is covered by the Medicaid Program. The goal of the subsidy program is to assist qualified oral health programs in maintaining fee structures that keep services financially accessible to potential patients. The overall intent of the Legislature and the Department of Human Services is to develop, through the new Dental Services Development and Subsidy Programs, additional access to quality oral health services for low-income residents of Maine, with an emphasis on underserved areas or populations.

The Bureau of Health issued a Request for Proposals (RFP) in August 2000. Grant awards have been made to four community agencies to assist them in developing community-based oral health services, to three agencies to assist them in expanding their current capacity to provide oral health services, and to two agencies to support oral health case management/ community education activities. Nearly all of these grants will support staff to develop and implement programs. Contracts to provide subsidies to a majority of Maine's dental clinics and dental centers are effective as of January 2001. This legislative action also allocated funds to the Medicaid Program for dental case management services.

In June 1999 the legislature also approved a loan repayment/forgiveness program for newly licensed dentists or for dental school students, as described previously. Initially supported with general fund monies, the Maine Dental Education Loan Program has been supported by the Maine Tobacco Settlement since July 2000 and is administered by the Finance Authority of Maine. Funds were allocated at that time to support up to three dentists or dental students at a time with loans of $20,000 each. Loan recipients must agree to practice in a state-designated underserved area and in a dental practice or facility that accepts patients regardless of their ability to pay for services. Their service obligations cover the same number of years for which they received program support.

The Maine Tobacco Settlement

Reference is made above to use of Maine's Tobacco Settlement funds to support improvements in the development and provision of oral health services. Maine has been notable among all the states in its allocations of these funds to support health promotion and disease prevention efforts through a wide variety of initiatives. Significant funds were allocated for grants to communities and schools to support interventions to reduce tobacco use, addiction and tobacco-related diseases. Resulting programs are community-based and oral health concerns, although not primary to their work, can be supported by the development and work of community coalitions promoting healthy behaviors.

Other State Level Initiatives

Within the Department of Human Services, the Bureau of Health's Oral Health Program (OHP) has responsibility for oral health promotion and education and disease prevention efforts. In mid-1999, the OHP successfully applied for two grants from the federal Maternal and Child Health Bureau (Health Resources and Services Administration [MCHB/HRSA]). The three-year Maine Dental Sealant Project provides support for the OHP to fund school-based dental sealant programs, in cooperation with local community agencies in Aroostook and Washington Counties, and with the Sacopee Valley Health Center in the southwestern corner of the state, serving rural parts of western Oxford and Cumberland Counties. A second objective is to develop appropriate referral mechanisms for children identified through public programs as being in need of dental care.

The Maine Oral Health Partnership Project (MOHPP), funded for four years, is a systems development grant, and has the objective to facilitate the building of a broad-based infrastructure for oral health services in Maine. It provides support for the Maine Dental Access Coalition (see below), and for other initiatives related to this end. For example, MOHPP funds have been utilized in the development and production of this report. Both of these MCHB/HRSA projects share the common goal of seeking to increase access to needed education, prevention and treatment services for low-income and Medicaid-eligible children and their families.

The Oral Health Program also received funding late in 2000 through a cooperative agreement with the Centers for Disease Control via the Maine Department of Education. The funded Maine School Oral Health Initiative's objectives are to evaluate and expand the OHP's School Oral Health Program, to assist schools in establishing relationships with local dental professionals, and again, to increase access to needed education, prevention and treatment services for low-income and Medicaid-eligible children.

Public-Private Partnerships

A successful and notable public-private partnership focused on improving access to oral health care is the Maine Dental Access Coalition (MDAC). It was convened in June 1997 as a collaboration between the State Oral Health Program and the Maine Children's Alliance. This totally *ad hoc* group has grown to over 100 individuals, representing themselves, dental and other health professional associations, community and State agencies, foundations, and other groups and individuals. Members come from agencies in Presque Isle, Lubec and Machias, Bangor, Ellsworth, Dover-Foxcroft and Greenville, and many towns in central and southern Maine.

The MDAC serves as a link among stakeholders and provides an ongoing neutral forum for productive discussion among dental care providers, payors/insurers, advocates, consumers and others. The Coalition's stated mission is "to promote and advocate for the importance of preventive and comprehensive oral health care and improve access to and the use of quality oral health services throughout Maine." Its strategy is "to facilitate working together of State government, health care providers, health care organizations, community agencies and consumers to achieve a system which maximizes resources, respects the needs of oral health care providers and consumers, and allows timely access to quality services in order to meet the unique oral health needs of Maine citizens."

The MDAC has been able to serve as a sounding board for ideas and strategies for improving access to oral health services, and provides a structure to propose options for improving access and to pursue those strategies. Support from the OHP's federally funded Maine Oral Health Partnership Project has provided paid staff support from the Children's Alliance to assist the OHP in maintaining the Coalition. In October 2000, the MDAC and its partners sponsored a very well attended conference for community oral health coalitions.

Local Initiatives and Programs

Many of the local initiatives described here could also be called public-private partnerships due to their structures, funding, and participation of various partners.

There are numerous local and community-based efforts to improve oral health status and increase access to oral health services across the State. Community groups are focusing on these goals in the Bangor area, Piscataquis County, Ellsworth, Belfast, Bucksport, Rockland, Rumford, Kennebec County, Washington County, and on the island of Vinalhaven, among others. For example, community-based efforts have resulted in the development and implementation of the following programs within the past two to three years:

- The *Waldo County Dental Project* is sponsored by Belfast Public Health Nursing, and Belfast's Building Communities for Children in cooperation with Waldo County General Hospital. This volunteer-centered dental program provides clinical services to qualified individuals. For its first two years, local volunteer dentists treated patients in their own offices on specified evenings. The Project is transitioning into a voucher system and patients will be seen during regular office hours.

- The *Portland Volunteer Dental Network* is another volunteer-centered program. Sponsored by the City of Portland's Public Health Division, Mercy Hospital and others, volunteer dentists and hygienists treat uninsured adults, many of whom are homeless, using the Portland dental clinic facilities of the Department of Mental Health, Mental

Retardation and Substance Abuse Services. The services are available two evenings per month, but an expansion is planned.

- A third volunteer-based program, *Islands Community Medical Services Dental Services,* began on Vinalhaven Island in October 2000. About 20 dentists have signed on to volunteer their time and travel to the Island to treat patients; services are planned for one or one and a half days a week on a nearly weekly basis. A hygienist works on Fridays, Saturdays and Mondays to provide preventive services.

- The *Community Dental Center* in Waterville is the result of a several-year effort by the Kennebec Valley Dental Coalition. This freestanding clinic provides preventive and restorative services and is open 5 days a week. It opened in late July 2000, and employs a National Health Service Corps dentist.

Maine Dental Association

The Maine Dental Association (MDA) has been an active partner in the Maine Dental Access Coalition, and individual members have been active in local coalitions as volunteers. The MDA was also instrumental in the development and passage of several legislative proposals during the 119th Legislature, and is involved in other programs and activities that address access to care issues as well as various task forces and educational programs. In 1999, the MDA convened several *ad hoc* committees, among them a committee on access. That committee's summary report is included in full in the Appendix, and also describes the community-based and volunteer programs through which many Maine dentists volunteer time and donate their services to provide needed dental care. These include the Donated Dental Services Program, which provides services to elderly and disabled individuals, the Cole Family Foundation Orthodontic Project, and the Senior-Dent Program on an ongoing basis.

Notably, as a result of the *ad hoc* committee's efforts, at its Annual Meeting in June 2000, the MDA created a standing Council on Access. The report begins with the statement: "A sustained, coordinated approach maximizing the resources of the public and private interested parties will be needed to change the current situation for many Maine residents needing dental care." Other MDA committees were formed to focus on the identified issues of a manpower shortage and the lack of perceived value of dental care. The MDA has made a commitment to raising the awareness of the value of good oral health through public education projects, especially those targeted at underserved populations, and to continuing support of community water fluoridation campaigns. Since June, the MDA has formulated some plans for recruitment of more dentists to Maine. This year, Maine dentists will be actively recruiting graduating dentists from the four New England dental schools. For next year, plans include focused efforts in Maine secondary schools to interest our young people in dental careers.

Maine Dental Hygienists Association

The Maine Dental Hygienists Association (MDHA) is also an active partner in the Maine Dental Access Coalition. MDHA has been working to promote the role and effectiveness of dental hygienists in community programs and has encouraged its member hygienists to participate in opportunities to provide these kinds of services. The pending rule change providing clarification of public health supervision status for hygienists (see this report's section on resources for more detail) should be effective in facilitating greater utilization of hygienist services in institutional, public health and other settings outside a dental office.

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APPENDICES

- List of Maine Communities with Fluoridated Water Supplies
- School Oral Health Program 2000-2001 Participating Schools
- Fact Sheet, Oral Health of Maine Children (summary of 1999 Maine State Smile Survey)
- Fact Sheet, Oral Health of Washington County Preschool Children
- Dentists and FTE Dentists by Dental Care Analysis Area, December 2000
- Fact Sheet, Dentists – Maine: 1998
- Map: Maine Dentists by Minor Civil Division, November 2000 [1]
- Fact Sheet, General Practice Dentists – Maine: 1998
- Map: Maine General Practice Dentists by Minor Civil Division, November 2000 [1]
- Fact Sheet, Dental Hygienists – Maine: 1999
- Map: Maine Registered Dental Hygienists by Minor Civil Division, November 2000 [2]
- List of Health Centers with Dental Services and other Dental Clinics
- Maine Dental Association Ad Hoc Committee on Access to Dental Care Summary Report
- Newspaper article, December 18, 2000, published in the *Kennebec Journal* as "Dental Care in Rural Maine Imperiled " and in the *Portland Press Herald* as "Shortage Of Dentists In Maine Affects All Regions, Age Groups," by Meredith Goad, Portland Press Herald/Blethen Maine Newspapers

[1] Dentists are indicated on the map by the address (by zip code) of their primary practice location.
[2] Hygienists are indicated on the map by their residence address.

Maine Communities With Fluoridated Water Supplies And Years Started

Anson	1983
Ashland	1966
Auburn	1969
Augusta	1997
Baileyville	1955
Bangor	1967
Bar Harbor	1963
Bath	1969
Belfast	1960
Benton	1965
Bethel	1970
Biddeford	1988
Blaine	1971
Bradley	1963
Brewer	1967
Bridgton	1963
Brunswick	1955
Bucksport	1969
Camden	1969
Cape Elizabeth	1997
Caribou	1959
Chelsea	1997
Clifton	1967
Cumberland	1997
Cutler Naval Station	1973
Damariscotta	1971
Dexter	1984
Dover-Foxcroft	2000
Dixfield	1971
Eagle Lake	1974
East Millinocket	1966
Eastport	1969
Eddington	1967
Ellsworth	1969
Embden	1981
Fairfield	1965
Falmouth	1997
Farmingdale	1973
Fort Fairfield	1959
Fort Kent	1972
Freeport	2000
Friendship *	
Fryeburg	1971
Gardiner	1973
Gorham	1997
Greening Island	1959
Guilford	1972
Hampden	1965
Hermon	1967
Holden	1967
Houlton	1968
Hulls Cove	1963
Indian Island	1963
Indian Township	1984
Island Falls	1967
Jackman	1964
Lewiston	1970
Limestone	1987
Lubec	1972
Machias	1966
Madawaska	1960
Madison	1983
Manchester	1997
Mars Hill	1971
Mechanic Falls	1971
Medway	1966
Mexico	1967
Milford	1963
Millinocket	1960
Monmouth *	
Moose River	1964
Newcastle	1971
Newport	1972
Northeast Harbor	1963
Northport	1998
Norway	1952
Oakland	1994
Old Orchard Beach	1988
Old Town	1963
Orono	1962
Orrington (part)	1967
Owls Head	1969
Oxford (part)	1952
Perry (part)	1967
Pittsfield	1965
Pittston	1973
Pleasant Point	1969
Portland	1997
Presque Isle	1960
Randolph	1973
Rockland	1969
Rockport	1969
Rumford	1959
Saco	1988
Salisbury Cove	1983
Sanford	1972
Sangerville	1972
Scarborough (Pine Point)	1988
Scarborough	1997
Seal Harbor	1963
Skowhegan	1973
South Freeport	2000
South Gardiner	1962
South Portland	1997
Southwest Harbor	1959
Springvale	1972
Standish	1997
Thomaston	1969
Topsham	1955
Van Buren	1967
Vassalboro (part)	1965
Vassalboro	1997
Veazie	1962
Waldoboro *	
Warren *	
Washburn	1961
Waterville	1965
West Bath	1969
West Bethel *	
Westbrook	1997
Westfield (part)	1971
Windham	1997
Winslow	1965
Winterport	1973
Winthrop (part)	1972
Winthrop	1997
Wiscassett	1989
Woolwich	1969

Notes:

* Community water supplies with naturally occurring fluoride

Communities listed by name indicates that all citizens served by the community water supply receive fluoridated water (1.2 ppm).

Those communities listed with "(part)" indicate either that different parts of the community implemented fluoridation at different times, or that not all citizens served by the public water supply receive fluoridated water because the community is served by more than one water supply.

[G:fwstowns 9/00]

MAINE DEPARTMENT OF HUMAN SERVICES
BUREAU OF HEALTH
DIVISION OF COMMUNITY HEALTH
ORAL HEALTH PROGRAM
2000-2001 SCHOOL ORAL HEALTH PROGRAM

The following is a list of local School Oral Health Programs (SOHP), supported with funding from the Division of Community and Family Health, Oral Health Program. This list is current as of September 2000. Although the number of children participating in each local program is usually high, NOT ALL CHILDREN PARTICIPATE. If you have any questions about the SOHP, please contact the program administrator at the Maine Department of Human Services, Division of Community and Family Health, Oral Health Program, #11 State House Station, Augusta, ME. 04333, or phone 287-3263 or 287-3121. We greatly appreciate your support and interest.

R = FLUORIDE RINSE (weekly .2% sodium fluoride rinse)
T = FLUORIDE TABLET (daily 2.2mg. sodium fluoride - 1mg. fluoride tablet for grades 1-6) and 0.5mg. fluoride for kindergarten)
E = EDUCATION PROGRAM
S = SEALANT PROGRAM

ANDROSCOGGIN

UNION 44 - LITCHFIELD
Libby Tozier - R/E/S
Sabattus Elementary - R/E/S
Wales Central School - R/E/S

MSAD 36 - LIVERMORE FALLS
Primary Learning Center - R/E
Elementary Learning Ctr.-R/E/S
Intermediate Learning Center - R/E

MSAD 52 - TURNER
Greene Central Sch.- R/E
Leeds Central Sch.- R/E
Turner Elementary- R/E
Turner Primary Sch.- R/E

AROOSTOOK

AROOSTOOK COUNTY CONSOLIDATED
Bridgewater Grammer-R/T/E/S
Caswell Elementary - R/T/E/S
East Grand Elementary - R/E/S
Grand Isle Elementary-R/T/E/S
Opportunity Training Ctr.-R/E
Wytopitlock Elem.- R/T/E/S

MSAD 32 - ASHLAND
Ashland Central School-R/E/S

BENEDICTA - KINGMAN
Benedicta Elementary-R/E/S
Kingman Elementary-R/E/S

CARIBOU
Hilltop Elementary-R/E/S
Teague Park Elementary-R/E/S

EASTON
Easton Elementary - R/E/S

MSAD 20 - FT. FAIRFIELD
Ft. Fairfield Elementary-R/E/S

MSAD 27 - FORT KENT
Eagle Lake Elementary- R/E/S
Ft. Kent Elementary- R/E/S
St. Francis Elementary- R/E/S
Wallagrass Elementary- R/E/S

FRENCHVILLE
Dr. Levesque School-R/E/S

MSAD 70 - HODGDON
Hodgdon Elementary- R/E/S

MSAD 29 - HOULTON
Houlton Elementary- R/E/S
Houlton Southside Sch.-R/E/S
Littleton School- R/E/S
Wellington School- R/E/S

SACSD - ISLAND FALLS
S. Aroostook Community- R/E/S

LIMESTONE
Limestone Comm. School-R/E/S

MADAWASKA
Madawaska Elem.- R/E/S

MSAD 42 - MARS HILL
Fort Street School- R/E/S

UNION 122 - NEW SWEDEN
New Sweden Cons.- R/E/S
Stockholm Elementary- R/E/S
Woodland Consolidated - R/E/S

MSAD 1 - PRESQUE ISLE
Gouldsville Elementary-R/E/S
Mapleton Elementary-R/E/S
Pine Street School-R/E/S
Westfield Elementary-R/E/S
Zippel School-R/E/S

MSAD 24 - VAN BUREN
Gateway Elementary- R/E/S

MSAD 45 - WASHBURN
Washburn Elementary- R/E/S

CUMBERLAND

PORTLAND
CENTER FOR COMMUNITY
DENTAL HEALTH (CCDH)
MSAD #6
Edna Libby Elementary- R/E/S
Eliza Libby Elementary- R/E/S
Frank Jewett School- R/E/S
George E. Jack Elementary-R/E/S
Harold B.Emery School- R/E/S
Hollis Consolidated- R/E
Hollis Elementary- R/E/S
Jack Memorial School- R/E/S
Samuel Hanson Elem.- R/E/S
Steep Falls Elementary- R/E/S
MSAD #55
Baldwin Consolidated- R/E/S
Cornish Elementary- R/E/S
Fred Morrill School- R/E/S
Hiram Elementary- R/E/S
South Hiram School- R/E/S
MSAD #72
Brownfield Consolidated- R/E
C.A. Snow School- R/E
Denmark Village School- R/E
New Suncook School- R/E
WESTBROOK
Prides Corner School- R/E
Saccarappa- R/E

CITY OF PORTLAND
Adams School-R/E/S
Baxter School-R/E
Cathedral School-R/E/S
Cliff Island School-R/E
Hall School-R/E
Jack School-R/E/S
Longfellow Elementary-R/E
Lyseth School-R/E
Nathan Clifford School-R/E/S
Peaks Island School-R/E/S
Presumpscot School-R/E
Reiche School-R/E/S
Riverton School-R/E/S
St. Joseph's School-R/E
St. Patrick's School-R/E
West School -R/E/S

FREEPORT
Mast Landing- R/E
Morse Street School- R/E

MSAD 15 - GRAY
Memorial School-R/T/E
Russell School-R/T/E
Burchard Dunn School-R/T/E

PINE TREE ACAD.-FREEPORT
Pine Tree Acad.- R/E

MSAD 62 - POWNAL
Pownal Elementary- R/E

FRANKLIN

KINGFIELD
Kingfield Elementary- R/E
Phillips Elementary- R/E
Stratton Elementary- R/E
Strong Elementary- R/E

RANGELEY LAKE
Rangeley Lakes Regional Sch.-R/E

HANCOCK

BROOKLIN - SEDGWICK
Brooklin Elementary- R/E/S
Sedgwick Elementary- R/E/S

UNION 92 -
HANCOCK/LAMOINE
Beech Hill School- R/E
Cave Hill School- R/E
Hancock Grammer School- R/E
Lamoine Consolidated- R/E

ORLAND
Orland Consolidated

PENOBSCOT
Penobscot Elementary

UNION 76 -STONINGTON/
DEER ISLE
Deer Isle Elementary- R/E
Stonington Elementary- R/E

KENNEBEC

CHINA
China Middle School- R/E
China Primary School- R/E

FAYETTE
Fayette Central- R/E

MONMOUTH
Henry L. Cottrell School- R/E
Monmouth Middle School- R/E

MSAD 47 - OAKLAND
Atwood-Tapley- R/E
Belgrade Central School- R/E
James Bean School- R/E

UNION 42 - READFIELD
Manchester Elementary- R/E
Mt. Vernon Elementary- R/E
Readfield Elementary- R/E
Wayne Elementary- R/E

VASSALBORO
Vassalboro Comm.School- R/E

WATERVILLE
Albert S. Hall School- R/E
George G. Mitchell Sch.-R/E/S
Gilman Street School- R/E

UNION 51 - WINSLOW
Winslow Elementary- R/E

KNOX

MSAD 5 - ROCKLAND
Guilford Butler School- R/E

MSAD 50 - THOMASTON
Cushing Community School- R/E
Lura Libby School- R/E
St. George Elementary- R/E
Thomaston Grammer- R/E

LINCOLN

UNION 74 - DAMARISCOTTA
Nobleboro Central - R/E/S
South Bristol School- R/E/S

DRESDEN
Dresden Elementary School

MSAD 40 - WALDOBORO
Frank D. Rowe School- R/E
Friendship Village School- R/E
Miller School- R/E
Prescott Memorial School- R/E
Union Elementary- R/E
Warren Primary School- R/E

OXFORD

MSAD 44 - BETHEL
Andover Elementary- R/E/S
Woodstock Elementary- R/E/S
Crescent Park School-R/E/S

MSAD 39 - BUCKFIELD
Hartford Sumner Elem.- E

MSAD 21 - DIXFIELD
Canton Elementary School-R/E
Dixfield Elementary School-R/E
Dirigo Middle School-R/E

MSAD 43 - MEXICO/RUMFORD
Meroby Elementary- R/E
Rumford Elementary- R/E
Virginia Elementary- R/E

PERU
Peru Elementary- R/T/E

MSAD 17 - SOUTH PARIS
Agnes Gray Elementary- R/E
Guy E. Rowe Elementary - R/E
Harrison Elementary- R/E
Hebron Elementary- R/E
Mildred E. Fox- R/E
Otisfield Elementary- R/E
Oxford Elementary- R/E
Waterford Memorial- R/E

PENOBSCOT

CITY OF BANGOR
Abraham Lincoln- R/E
Downeast School- R/E
Fairmont School- R/E
Mary Snow School- R/E
Vine Street- R/E

MSAD 46 - DEXTER
Dexter Primary/Mdl. Sch.- R/E
Exeter Elementary- R/E
Garland Elementary- R/E

MSAD 64 - EAST CORINTH
Bradford Elementary- R/E
Central Middle School- R/E
Hudson Elementary- R/E
Kenduskeag Elementary- R/E
Morrison Memorial- R/E
Stetson Elementary- R/E

GLENBURN
Glenburn Elementary- R/E

MSAD 22 - HAMPDEN
Leroy Smith Elementary- R/E
Newburgh Elementary- R/T/E
Sam Wagner Middle School- R/E

MSAD 30 - LEE
Edith Lombard School- R/E/S
Mt. Jefferson Jr. High- R/E
Lee/Winn Elementary- R/E/S

UNION 90 – MILFORD
Alton Elementary- R/E
Dr. Lewis S. Libby School-R/E
Helen S. Dunn School- R/E
Viola Rand School- R/

MSAD 48 - NEWPORT
Newport Elementary- R/E
Hartland Consolidated- R/E
Newport Elementary- R/E
Palmyra Consolidated- R/E
St. Albans School- R/E

OLD TOWN – PENOBSCOT INDIAN HEALTH CENTER
Indian Island School- R/E

MSAD 25 - PATTEN
Patten Grammer- R/E/S
Patten Primary- R/E/S
Katahdin Elementary- R/E/S

MSAD 31 - WEST ENFIELD
Enfield Station School- R/E
Hichborn Middle School- R/E

PISCATAQUIS

MSAD 4 - DOVER-FOXCROFT
Charleston Elementary- R/E/S
Mayo Street Elementary- R/E
Monson Elementary- R/E/S
Morton Avenue Elem- R/E/S

GREENVILLE
Greenville Elementary - R/E

MSAD #4 - GUILFORD
Abbie Fowler School - R/E
Cambridge Elementary - R/E
Carroll L. McKusick - R/E
Guilford Primary Sch. - R/E
Piscataquis Community - R/E
Wellington Elementary – R/E

SAGADAHOC

RICHMOND
Marcia Buker School-R/T/E

MSAD 75 - WEST HARPSWELL
West Harpswell Elem. - R/E

SOMERSET

ALBION/CLINTON
Albion Elementary- R/E
Clinton Elementary- R/E

HARMONY
Harmony Elementary- R/E

MSAD 59 - MADISON
Athens Elementary- R/E/S
Madison
Old Point Ave. School- R/E/S
Madison Jr. High School- R/E
Main Street Elementary- R/E/S
Starks Elementary- R/E/S

MSAD 54 - SKOWHEGAN
Canaan Elementary- R/E
Cornville Elementary- R/E
Mercer Elementary- R/E
Norridgewock Central- R/E
Skowhegan
Bloomfield Elementary- R/E
Marg. Chase Smith Sch.- R/E
North Elementary- R/E
Smithfield Elementary- R/E

WALDO

LINCOLNVILLE
Lincolnville Central Sch.-R/E

MSAD 56 - SEARSPORT
Frankfort Elementary- R/E
Searsport Elementary- R/E
Stockton Springs Elem.- R/E

SWANVILLE
Nickerson School- R/E

MSAD 3 - UNITY
Monroe Elementary- R/E
Morse Memorial- R/E
Mt. View Elementary-R/E
Troy Elementary-R/E
Unity Elementary- R/E
Walker Elementary- R/E

WASHINGTON

CALAIS
Calais Elementary-R/T/E/S
Calais Middle School-R/T/E/S

MACHIAS - W.C. CHILD & YOUTH PRGRAM
Alexander Elementary- R/E/S
Bay Ridge- Cutler- R/E/S
Charlotte Elementary - R/E/S
Eastport Elementary- R/E/S
East Range II- R/E/S
Elm Street-E. Machias R/E/S
Fort O'Brien-Machiasport R/E/S
Lubec Elementary- R/E/S
Princeton Elementary- R/E/S
Robbinston Grade School- R/E/S
Rose M. Gaffney- R/E/S
Vanceboro Elementary- R/E/S
Wesley Elementary- R/E/S
Whiting Village School- R/E/S
Pembroke Elementary-R/E/S

YORK

DAYTON
Dayton Consolidated- R/E

OLD ORCHARD BEACH
Jameson School - R/E
Loranger School- R/E

Oral Health of Maine's Children - An Overview

Dental caries is the most prevalent chronic childhood disease. The 1999 Maine State Smile Survey was conducted as a needs assessment to help define what types of oral problems exist for elementary school children in our state, what types of services are currently available, and the extent of unmet needs or underutilized resources. This survey focused on children in kindergarten and third grade.

Regions

the State was divided into six regions as follows:

Southern	Cumberland, York
Coastal	Hancock, Knox, Lincoln, Sagadahoc
East Central	Penobscot, Waldo
West Central	Androscoggin, Kennebec
Western	Franklin, Oxford, Piscataquis, Somerset
Northeastern	Aroostook, Washington

History of Decay

A history of decay means that a child either had a cavity, a filling, or a tooth that was missing due to an extraction. One third of kindergarten children (31.4%) and almost a half of third graders (44.7%) in Maine have had dental decay. Kindergarten children eligible for the free/reduced lunch (FRL) program were 60% more likely to have a history of dental caries. Third graders eligible for the FRL program were three times more likely to have a history of dental decay.

Untreated Decay

Nearly one in five kindergarten children (18.5%) and over one in five third graders (20.4%) in Maine have untreated dental decay. Kindergarten children eligible for the free/reduced lunch (FRL) program were 70% more likely to have untreated decay. Third grade children eligible to receive FRL were four times more likely to have untreated decay.

Access to Oral Health Care

Most children who were screened visited the dentist in the last year. Maine children eligible for free or reduced lunch were more likely to have had trouble accessing dental care in the last year than children who were not eligible. The Most common reasons for not obtaining care were could not afford it, no insurance, dentist did not accept Medicaid/ insurance and difficulty getting an appointment.

Dental Sealants

Over 80 percent of tooth decay in school children is found on the chewing surfaces of the teeth, which dental sealants can protect.
Almost half of the third graders (47.6%) had at least one dental sealant placed on a permanent tooth. However, over half of these children (56.8%) needed additional sealants placed. One out of five kindergarteners (19.3%) needed at least one dental sealant placed.

Fluoridation

Fluoridation is the most effective way to prevent dental caries in all children, regardless of socioeconomic status or race/ethnicity.

Providing fluoridated community water is an inexpensive way to reduce tooth decay thus reducing the need for dental care.

Approximately 75% of Maine people on public water supplies receive fluoridated water. Since only about 47% of Maine people use public water supplies, this means that overall about 35 % of Maine's population has fluoridated water in their homes.

Over three-quarters of the children participating in the School Oral Health Program take part in the weekly fluoride rinse program.

Conclusions

Children eligible for free and reduced lunch program had significantly poorer oral health. Continued efforts need to occur in order to decrease the amount of dental decay present in Maine's children.

1.) All community water supplies should be optimally fluoridated, and fluoride supplements should be prescribed for children on well water after the well water has been shown to be deficient of fluoride.

2.) Dental sealants should be placed as a routine preventive measure.

3.) Access issues need to be addressed, especially for lower socioeconomic groups.

4.) School Oral Health Programs need to continue, and be expanded especially in areas of lower socioeconomic status.

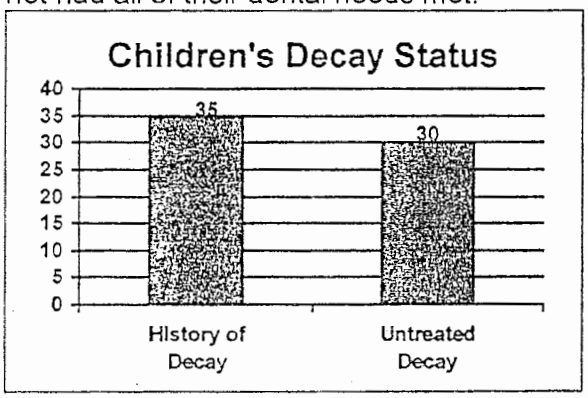
Oral Health of Washington County Preschool Children Fact Sheet

The following information was collected by the Washington County Child and Youth Dental Program as part of the Preschool Children's Oral Health Assessment[1] between September 1998 and June 1999 at 27 Head Start, WIC, Well Child Clinic and daycare/preschool settings. The survey included an oral screening and a parent questionnaire. Of the 239 children included in the survey, 55% are female, 45% are male, 91% are white, and 6% are Native American.

Decay:

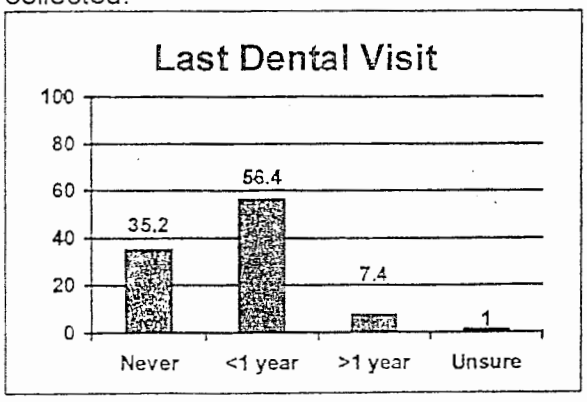
Over a quarter of the preschool children screened (35%) have experienced tooth decay. This means they have either had a filling, an extraction due to decay or currently have decay.

Untreated tooth decay is evident in 30% of the preschool children. Therefore, the majority of children who have experienced decay have not had all of their dental needs met.



Dental Care:

Caregivers completing the questionnaire reported their child's last dental visit. The following chart summarizes the information collected:



Baby Bottle Tooth Decay:

Baby Bottle Tooth Decay (BBTD) is a severe dental condition of preschool children associated with improper feeding practices and poor oral hygiene.

- 13% of children screened have BBTD.[2]
- Of those, 92% are untreated.

Sources of Dental Care Payment:

Of caregivers responding, four payment methods for dental services are reported. Additionally, nearly a third of children have not had dental care so there is no method of payment. (N=239)

Payment Method	Percent
Self-Pay	7%
Medicaid	36%
Insurance	11%
Other	2%
No Care	32%
No Response	12%

National Goals:

- Increase to at least 90% of all children entering school programs for the first time who have received an oral health screening, referral and follow-up services.
- To reduce tooth decay so that not more than 35 percent of children aged 6 to 8 have had decay in one or more teeth.
- Ensure that children receive their first dental visit by age one.

For More Information:

Contact the Washington County Child and Youth Dental Program for more information at (207) 255-3426 or by e-mail at cydental@nemaine.com.

[1] Oral Health of Washington County Preschool Children, June 1999.
[2] BBTD is classified as at least one maxillary anterior (upper front) tooth with decay, extraction due to decay or filling/crown.

DENTISTS AND FTE DENTISTS BY DENTAL CARE ANALYSIS AREA, 12/00

DCAA #	DCAA NAME	1998 ESTIMATED POPULATION	TOTAL NUMBER OF DENTISTS	WEIGHTED FTE DENTISTS	POPULATION PER FTE DENTIST	FTE DENTISTS PER 100,000 PEOPLE	SHORTAGE AREA DESIGNATION STATUS
#1	York	19,404	9	8.71	2228	44.9	
#2	Biddeford	64,169	25	19.45	3299	30.3	
#3	Sanford	43,552	12	10.4	4188	23.9	**
#4	Portland	175,580	142	76	2313	43.3	X* (city of Portland
#5	Gorham	34,594	10	9.66	3581	27.9	
#6	Parsonsfield	6,993	1	1.08	6475	15.4	**
#7	Bridgton	15,177	5	4.53	3350	29.8	**
#8	Brunswick	45,514	19	16.43	2770	36.1	
#9	Bath	21,965	9	8.04	2732	36.6	
#10	Damariscotta	22,613	7	6.9	3277	30.5	**
							X (Pen Bay Islands)
#11	Rockland *	39,209	17	15.87	2470	40.5	**
#12	Belfast	21,295	7	6.615	3219	31.1	X*
#13	Lewiston	96,753	34	29.55	3274	30.5	
#14	Norway	19,772	5	5.28	3745	26.7	**
#15	Fryeburg	5,562	2	2.28	2439	41.0	**
#16	Jay	14,058	2	1.8	7810	12.8	X
#17	Farmington	16,924	7	6.2	2730	36.6	X*
#18	Bethel	5,820	1	1.2	4850	20.6	**
#19	Rumford	17,016	7	5.895	2887	34.6	**
#20	Kingfield/Rangeley	5,166	1	0.96	5381	18.6	X
#21	Gardiner	26,321	7	5.7	4618	21.7	**
#22	Augusta	43,029	19	18.81	2288	43.7	**
#23	Waterville	62,205	25	13.52	4598	21.7	X*
#24	Pittsfield	14,312	4	3.93	3642	27.5	**
#25	Skowhegan	31,116	9	4.64	6706	14.9	X*
#26	Bingham	2,305	0	0	0	0.0	X
#27	Jackman	1,456	0	0	0	0.0	X
#28	Millinocket/Lincoln	19,822	8	6.23	3182	31.4	**
#29	Grnvil/D-F/Milo	26,848	7	5.41	4963	20.2	**
#30	Corinth/Bangor	89,087	34	30.27	2943	34.0	**
#31	Howland/Old Town	20,319	1	0.9	22,577	4.4	**
#32	Bucksport	9,122	1	1.14	8002	12.5	X*
#33	Blue Hill	11,249	4	3.55	3169	31.6	
#34	Ellsworth	13,452	8	3.72	3616	27.7	X*
#35	Bar Harbor	10,520	4	2.73	3853	26.0	
#36	Goulds/Mlbrdg	9,433	3	2.79	3381	29.6	X*
#37	Jonespt/Machias	11,086	2	1.52	7246	13.7	X*
#38	Lubec/Eastpt	6,765	1	1.1	6193	16.3	X
#39	Calais	8,876	4	2	4539	22.5	X*
#40	Vanceb/Danfrth	3,186	0	0	0	0.0	X
#41	Island Falls	4,675	1	1.2	3895	25.7	
#42	Houlton	12,236	7	7.31	1674	59.7	
#43	Mars/Ash/FtFrf	40,573	3	4.41	9200	10.9	X*
#44	VBuren/FtKent	14,279	2	1.8	7933	12.6	X
#45	Allagash	1,191	0	0	0	0.0	X
#46	Berwick	27,462	5	5.5	4993	20.0	
	STATE TOTAL	**1,212,061**	**481**	**365.03**	3320	30.1	

Tabulated by the Office of Rural Health and Primary Care, Maine Department of Human Services

DESIGNATION STATUS LEGEND: X = geographic area designation X* = low income population designation

** = area to be analyzed for possible designation

1998 population data provided by Claritas Consultants, Washington, DC

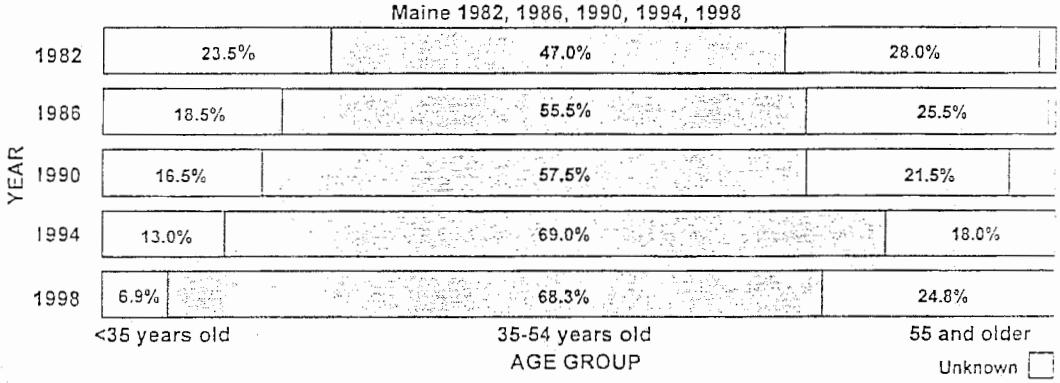
FTE = federally-weighted full-time equivalent

* 1998 data used for one Rockland DCAA dentist

MAINE DENTISTS - 1998
(preliminary data)

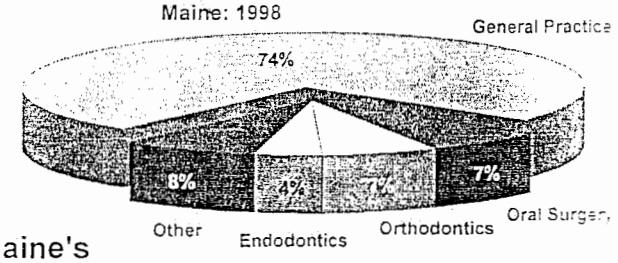
- In 1998, there were 584 dentists actively practicing in Maine; this resulted in a dentist to population ratio of 1 dentist for each 2,127 residents. This was significantly* different from the US ratio of 1 dentist for each 1,743 residents [1].
- In 1998, the number of dentists reporting that they were actively practicing dentistry in Maine increased by just 11 since 1994. This small increase is consistent with the fact that in 1998, the proportion of dentists who reported that they were 35 years of age or younger (6.9%) diminished by nearly half since 1994 (13.0%), and was less than a third of the size that it was in 1982. (23.5%)
- The age distribution of Maine dentists has changed markedly in the past few years. In 1994, 50% of all active dentists were 45 years old and older; by 1998, the proportion of Maine dentists in this age group had increased to 64%.

PERCENT OF DENTISTS BY YEAR AND AGE GROUP
Maine 1982, 1986, 1990, 1994, 1998



- Maine dentists reported working an average of 38 hours per week in 1998. The majority of those hours, 36 hours, were spent providing direct patient care.
- Nearly three quarters of all active dentists in Maine who reported a primary specialty (394) said that they were general practitioners.

PERCENT OF DENTISTS BY SPECIALTY
Maine: 1998



- Approximately 60% (342) of Maine's dentists accepted Medicaid payment for the services they provided in 1998. Of that group, nearly 60% (199) limited the percent of Medicaid patients that they would accept in their practice.

* Unless noted, differences in rates are not statistically significant, i.e., they could be accounted for by chance alone

Footnote 1: National data are for 1996, the most current available data. Dentist data were obtained from the American Dental Assoc.; population data were obtained from the Bureau of the Census. Full citations are available upon request

For further data on this topic, please contact:
the Office of Data, Research, and Vital Statistics, BUREAU OF HEALTH
at 35 Anthony Avenue, State House Station 11, Augusta, Maine 04333-0011
The contact person is: Kim Haggan - (207) 624-5445 624-5512 (TTY)

For program information, please contact: Judith Feinstein at 287-2361

Angus S. King, Jr.
Governor

Kevin W. Concannon
Commissioner

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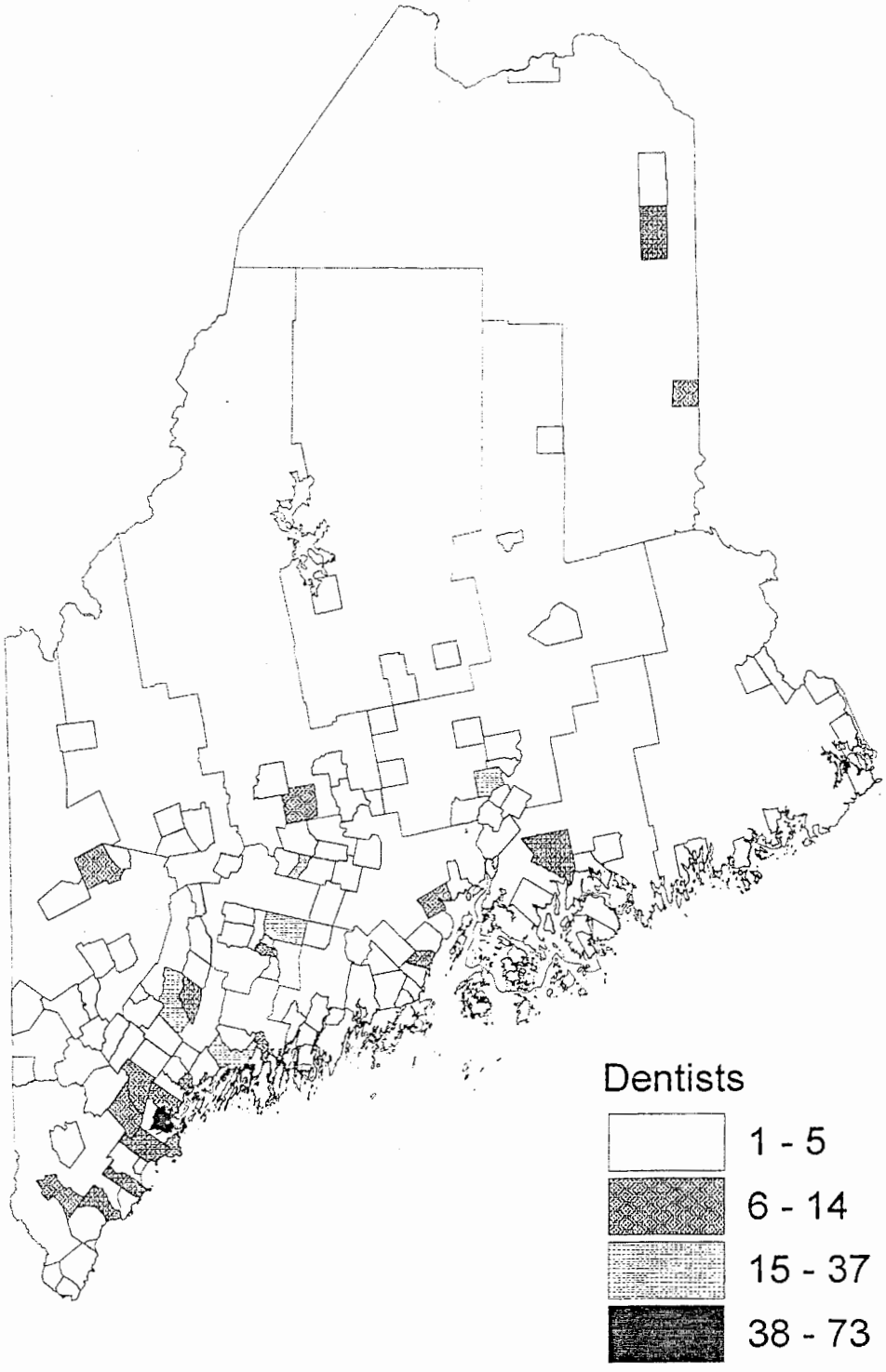
MAINE DEPARTMENT OF HUMAN SERVICES

Series 7 Number 2

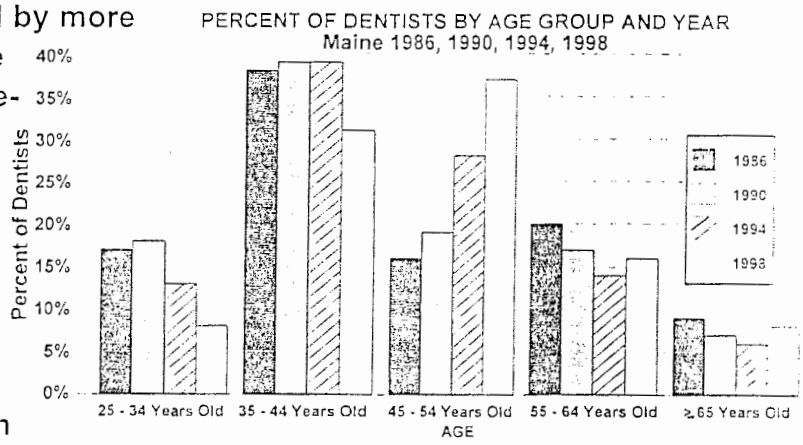
FACT SHEET - DENTISTS MAINE: 1998

Maine Dentists
by Minor Civil Division
November, 2000



GENERAL PRACTICE DENTISTS
Maine, 1998

- In 1998, 581 dentists reported practicing in Maine. Seventy five percent of the dentists reporting a primary specialty (393) reported that they were general practitioners - the same proportion as in 1994.
- Since 1986, the proportion of general practice dentists younger than age 35 has diminished by more than half while the proportion of general practice dentists who are 45 - 54 years old has more than doubled, from 16% of all general practitioners to 37%.



- For the first time in 1998, dentists aged 45 to 54 made up the largest proportion (37%) of general practice dentists in Maine. In fact, less than 40% of general practitioners were younger than 45 in 1998, while 4 years earlier in 1994, 52% of these dentists were in that age group. The average age of general practice dentists was 48 years old.
- In 1998, there was 1 general practice dentist for each 3,160 residents; nationally, there was 1 general practice dentist for each 2,628 residents.[1]

POPULATION* PER GENERAL PRACTICE DENTIST IN RANK ORDER OF COUNTY

COUNTY	POPULATION* / DENTIST	COUNTY	POPULATION* / DENTIST
Cumberland	2,286	Washington	3,599
Lincoln	2,633	Franklin	3,627
Kennebec	2,826	Piscataquis	3,663
Knox	2,888	York	3,692
Androscoggin	3,062	Somerset	4,747
Hancock	3,102	Waldo	5,146
Penobscot	3,184	Oxford	5,378
Sagadahoc	3,242	Aroostook	5,507

- Nearly 40% of Maine's general practice dentists would not accept Medicaid as payment for their services in 1998; 63% of them reported that they would consider accepting Medicaid payment if reimbursement were increased, paperwork were reduced, or there was payment for missed appointments.[2] Another 25% reported that they would not accept Medicaid payment even if all of these changes were made in the system.

* Population data are for July1997 and are from the data files of the Office of Data, Research, and Vital Statistics.

Footnotes FN1. National data were obtained from the American Dental Assoc and are for 1996, the most current available data. FN2. Percentages exclude 41 dentists who did not answer these questions. Dentists could respond "yes" to all options that applied.

For further data on this topic, please contact:
the Office of Data, Research, and Vital Statistics, BUREAU OF HEALTH
at 35 Anthony Avenue, State House Station 11, Augusta, Maine 04333-0011
The contact person is: Kim Haggan - (207) 624-5445 624-5512 (TTY)

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Angus S. King, Jr.
Governor

Kevin W. Concannon
Commissioner

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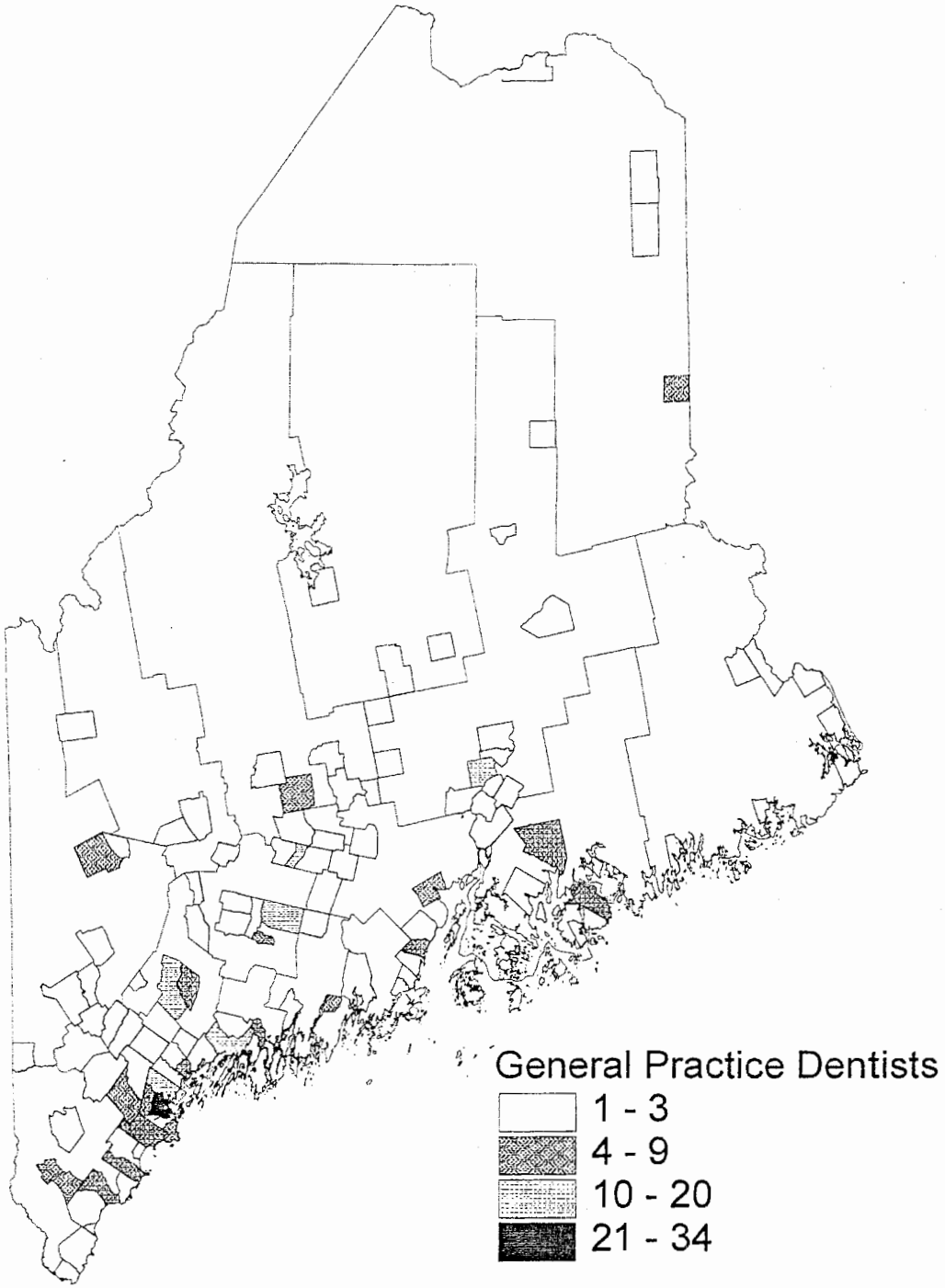
MAINE DEPARTMENT OF HUMAN SERVICES
Series 7 Number 7

FACT SHEET - GENERAL PRACTICE DENTISTS: 1998

Maine General Practice Dentists by Minor Civil Division November, 2000



REGISTERED DENTAL HYGIENISTS

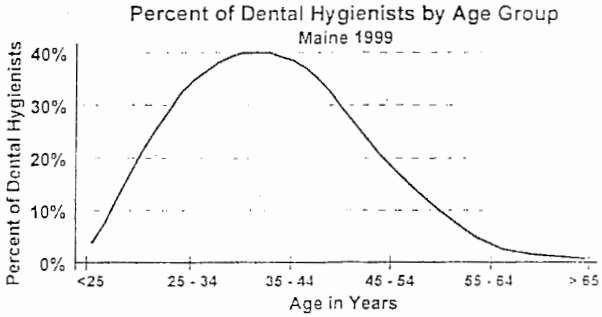
Maine, January 1999

In 1999, there were 715 dental hygienists practicing in Maine. This resulted in a statewide ratio of 1 hygienist for every 1,737 residents; 12 of Maine's 16 counties had ratios greater than the state average.

DENTAL HYGIENIST TO POPULATION BY RANK ORDER OF COUNTY: 1999

COUNTY	DENTAL HYGIENIST/ POPULATION	COUNTY	DENTAL HYGIENIST/ POPULATION
Cumberland	1:1,018	Lincoln	1:2,257
Penobscot	1:1,419	Franklin	1:2,418
Knox	1:1,632	York	1:2,444
Piscataquis	1:1,665	Aroostook	1:2,753
Kennebec	1:1,783	Oxford	1:2,830
Hancock	1:1,986	Washington	1:2,999
Androscoggin	1:2,062	Waldo	1:3,602
Sagadahoc	1:2,229	Somerset	1:4,352

Three fourths of all hygienists were younger than 44 years old; this included 3% who were younger than 25. Less than 1% were 65 years old or older.



Nearly ¾ of all dental hygienists worked less than 35 hours per week with ¼ of them (161) working 31 - 35 hours and another ¼ of them (161) working 21 - 30 hours. This resulted in a statewide average of 29 hours worked each week with 27 of those hours spent providing patient care services.

Ninety percent of Maine's hygienists reported that they were "satisfied" with their employment situation. Most of these hygienists received free or reduced dental care for themselves (80%) and/or their families (76%).

Percent of Dental Hygienists by Employment Benefits Received
Maine, 1999

Benefit	Yes	No
Continuing Education Assistance	86%	14%
Free/Reduced Dental Care for Self	80%	20%
Free/Reduced Dental Care for Family	76%	24%
Paid Sick Leave	62%	38%

Benefit	Yes	No
Retirement Benefits	57%	43%
Medical Health Insurance	43%	57%
Dental Health Insurance	8%	92%

About 12% of Maine's dental hygienists were salaried employees; the rest worked for an hourly wage. More than half (51%) of those who reported working for an hourly rate earned between $18.00 and $20.99 per hour in 1999; another 28% earned $21.00 or more per hour.

Note: Population data are for July 1997 and are from the data files of the Office of Data, Research, and Vital Statistics.

For further data on this topic, please contact:
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Angus S. King, Jr.
Governor

Kevin W. Concannon
Commissioner

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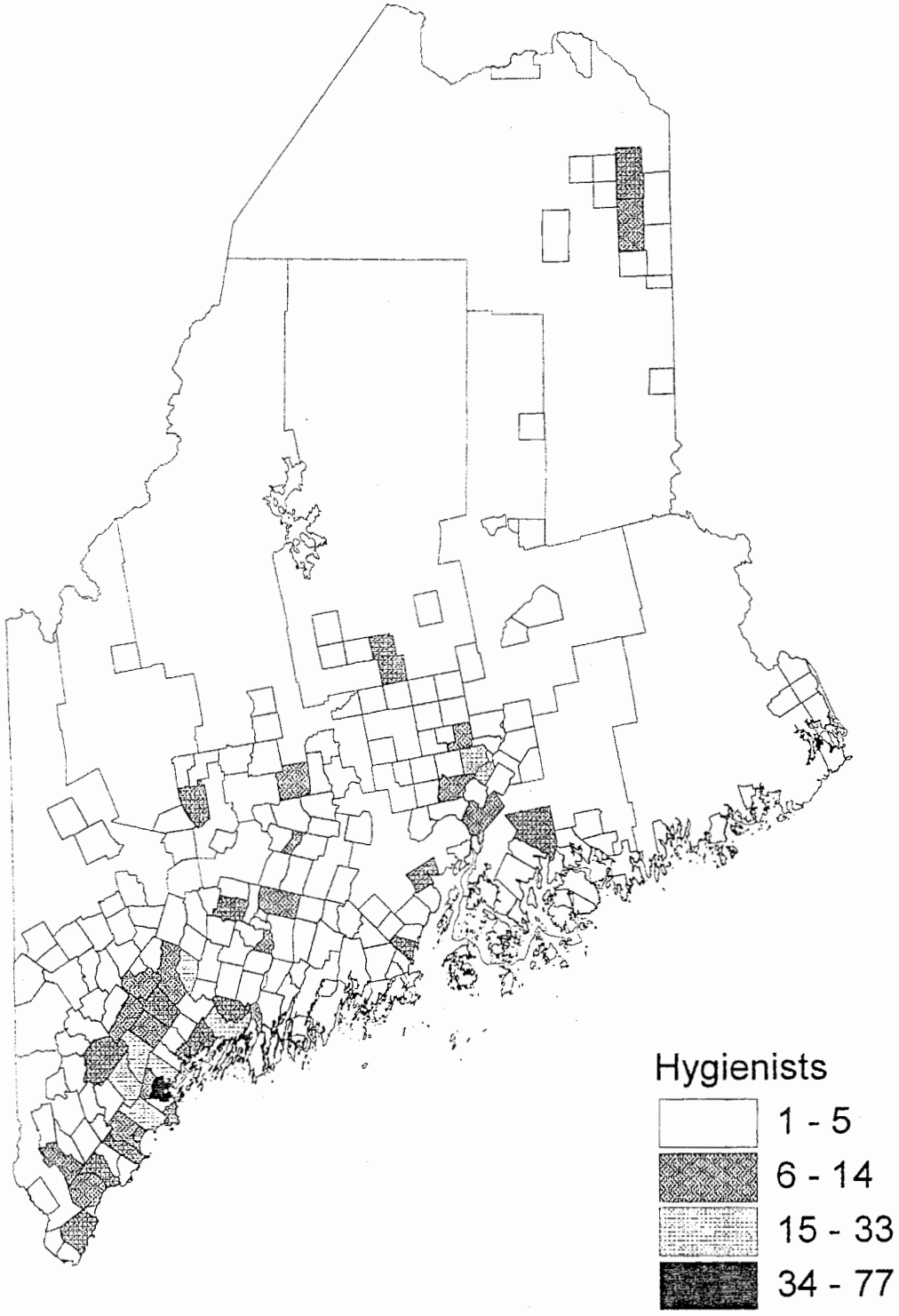
MAINE DEPARTMENT OF HUMAN SERVICES
Number 17
FACT SHEET - DENTAL HYGIENISTS
MAINE 1999

Maine Licensed Registered Dental Hygienists by Minor Civil Division January, 2001



Dental Centers and Clinics in Maine

Free-standing clinics (providing full range of dental services)

Tri-County Dental Health Center, Auburn*
Cumberland County Dental Health Center, Portland*
Franklin County Dental Health Center, Farmington*
Sanford-Springvale Dental Health Center, Sanford*
York County Dental Health Center at Kimball Health Center, Saco*
Community Dental Center, Waterville
Jessie Albert Memorial Dental Center, Bath**
City of Bangor Children's Dental Clinic, Bangor

* administered by the Center for Community Dental Health in Portland
** administered by Catholic Charities Maine

Rural and Community Health Centers (providing full range of dental services)

Aroostook Valley Dental Center, Ashland
Bucksport Regional Health Center, Bucksport (dental clinic opening in 2001)
Eastport Health Care, Eastport
Harrington Family Health Center, Harrington
Regional Medical Center at Lubec, Lubec

Rural and Community Health Centers (providing preventive services only)
Eagle Lake Health Center (referrals for restorative care to local dentist)

Volunteer-based Programs (range of services varies)

Waldo County Dental Project, Belfast
Volunteer Dental Network, Portland
Islands Community Medical Services Dental Services, Vinalhaven
Knox County Health Clinic, Rockland (dental program beginning in 2001)

Indian Health Services Clinics (services provided for federally recognized tribal members)
Micmac Health Department, Presque Isle – dental services are contracted.
Houlton Band of Maliseet Indians, Houlton – dental services are contracted.
Passamaquoddy Tribe of Indian Township, Princeton – dental services provided at Indian Township Health Center and by contract referral.
Passamaquoddy Tribe of Pleasant Point, Perry – dental services provided at Pleasant Point Health Center
Penobscot Nation Health Department, Old Town - dental services provided at Indian Island Health Center and by contract referral.

Maine Dental Association
Ad Hoc Committee on Access to Dental Care
Summary Report
December, 1999

A sustained, coordinated approach maximizing the resources of the public and private interested parties will be needed to change the current situation for many Maine residents needing dental care. The Maine Dental Association recognizes good oral health for the people of Maine as one of the primary objectives for our organization. We support policies and programs that contribute to increasing public awareness of the value of good oral health. Proven methods which have served dentistry's goal of eliminating dental disease need to be employed: education, prevention, and dental therapy delivered by skilled professionals.

BACKGROUND

The problems of gaining access to dental care are not new and are not likely to disappear soon. In light of this, the Maine Dental Association (MDA) formed an Ad Hoc Committee on Dental Access in July, 1999. This committee examined the barriers to access, and recommended actions to help the MDA develop its role in creating positive solutions. The committee presented its final report to the MDA Executive Board in December, 1999.

DENTAL MANPOWER

The State of Maine has a dental manpower shortage. According to statistics from the Maine Office of Data, Research and Vital Statistics, there are 393 active general dentists in the state; 241 are 45 years or older. The average age of dentists in the state is increasing. If this pattern continues, the shortage will become more acute. There are 898 dental hygienists licensed and living in the state. However, only 715 of them are practicing, and the relative percentages of full or part time practicing hygienists is not known.

In addition, there is a disparity in the distribution of dental health professionals throughout the state. The ratio of dentists to residents ranges from 1:1397 in Cumberland County to 1:4000 or more residents in Waldo County. Furthermore, Maine has fewer than ten specialists in pediatric dentistry, and most are located in the southern part of the state where there is already a more equitable ratio of caretakers to recipients. Even in the more urban areas, this number falls far short of the public's need.

MAINE MEDICAID/CUB CARE

Many of the people in the State of Maine who have difficulty accessing dental services are those whose care is paid for by the State Medicaid system. The relationship between the dentists in the state and this program is tenuous, multifaceted, and complex. Innovative changes will be needed before dentists in the state will extensively participate in a system such as this. The current Maine Medicaid dental

program was intended to provide comprehensive care to children up to age 21, although there are limitations on many types of treatments and on the maximum payments allowed per year. Coverage for Medicaid recipients over age 21 is limited to emergency care only; no routine preventive or restorative dentistry is covered. Dentists who participate in the system cite chronic problems with inadequate reimbursement for services, limits on treatment options, lack of client accountability with regard to making and keeping appointments, and administrative/billing problems. These issues have influenced a number of dentists to discontinue participation in the Medicaid program.

MDA ACTION

To satisfy the objective of the Maine Dental Association as described in our Constitution, the members are to "promote the health and welfare of the people of the State of Maine." This implies all the people of the State. The MDA should be a leader in the efforts to improve the availability of dental care in this state.

The MDA has identified the following barriers that preclude people from accessing regular dental care, in order of priority:

A. the lack of perceived value of good oral health
B. the manpower shortage of general dentists, some dental specialists, and dental auxiliaries relative to the population
C. the geographic distribution of dental health professionals relative to the population.
D. economic restrictions:
    1. working poor
    2. Medicaid/Cub Care Recipients
        Medicaid System/Participant Deterrents:
            a. Low Fee Schedule
            b. Administrative Problems
            c. Transportation Issues
            d. Child Care Problems
    3.elderly lacking dental coverage under Medicare
E. fear of dental treatment.
F. transportation issues for the homebound and nursing home residents
G. numbers of public health oriented individuals in the dental health profession.
H. practitioners' practice style/philosophy.

Plans to address some of the problems of dental access have been initiated by the Maine Dental Association. A number of ad hoc committees have recently been formed to focus on the identified issues of the manpower shortage and the lack of perceived value of dental care. The MDA is currently working with various groups and coalitions on different aspects of the access issue, including the Maine Dental Access Coalition and a task force studying the feasibility of renewing a dental residency program in the state, to attract more new dentists to Maine. The MDA is committed to raising the awareness of the value of good oral health through public education projects, especially those targeted at underserved populations, and to continuing support of community water fluoridation campaigns. Finally, the Maine Dental Association

recognizes that continued political action for improvements in the Maine Medicaid dental program is necessary. Recent positive changes in some of the billing and coding requirements, coupled with the first fee increase in many years, has given rise to a hope that continued improvements in the system can occur.

THE "GOOD NEWS"

There are a number of good things already happening in the dental community in regard to access to care.

1. Currently in Maine, about 30% of eligible children obtain Early Periodic Screening Diagnostic Testing (EPSDT) exams, a screening program for Medicaid-eligible preschoolers. Although this number needs to be improved, it is almost twice the national average.
2. There is now a Donated Dental Services (DDS) Program functioning in Maine. This program links handicapped and under-privileged patients with dentists who voluntarily provide comprehensive services free of charge.
3. Maine Dental Association member dentists participate in the Cole Family Foundation Orthodontic Project, which has provided orthodontic care for many children whose families could not afford care.
4. In June, 1999 volunteer dentists and auxiliaries screened approximately 600 athletes in the "Special Olympics, Special Smiles" program during the summer Special Olympics at the University of Maine in Orono. The overwhelming response to this first-time effort ensures that this program will become an annual event for the Maine Dental Association.
5. Maine dentists who belong to the American Academy of Cosmetic Dentistry recently have initiated a "Give Back A Smile" program, which helps victims of domestic violence.
6. Senior Dent is a MDA sponsored program where eligible senior citizens receive dental services at a discounted fee.
7. Many dentists participate in local community projects such as free dental clinics, sealant programs, health fairs, oral health screenings, school education programs, sports mouthguard construction projects, and pre-natal presentations.

CONCLUSION

The Maine Dental Association is working proactively to improve access to dental care for Maine citizens. Certain elements of the MDA action plan will take time and patience to accomplish. Increasing the number of dental providers will be a long-term goal. Educating the population about the need for good oral health and preventive programs will help to alleviate some of the need for emergency-based dental care. The MDA will continue to work in cooperation with other stakeholders, both public and private, to assist in bringing positive change to this very complex access issue.

Committee Members:
Dr. Karl Woods, Chair
Dr. Lisa Howard
Dr. Wendy Alpaugh
Dr. Jerry Cohen
Dr. Michael Bufo

Dental care in rural Maine imperiled

By MEREDITH GOAD
Blethen Maine Newspapers

PORTLAND — A national shortage of dentists is making it difficult for some Mainers, including children and people living in rural areas, to get care.

Poorer Mainers particularly lack access to dental care, but the problem is not limited by income. Even in southern Maine, where there are more dentists, appointments can be hard to come by.

"The economy is good," said Dr. Barry Saltz, a Portland dentist who is president of the Maine Dental Association. "There's a higher dental IQ, and people are taking advantage of their insurance and seeking dental care. Some practitioners don't see children. Some aren't taking new patients."

There are many reasons for the shortage in Maine, experts say.

The state's population of dentists is aging while the population as a whole is growing and people are living longer, with more disposable income to spend on dental work.

There were 581 dentists in Maine in 1998, including specialists and those practicing general dentistry. Sixty-four percent of them are 45 years old or older, and they are not being replaced fast enough by young graduates of dental schools.

There is also a geographic shortage, with more dentists practicing in southern Maine and along the coast than in rural, inland areas. According to the state's Oral Health Program, in Cumberland County there is one general-practice dentist for every 2,286 people. But the numbers drop off dramatically in western and northern Maine. In Aroostook County, for example, there's one dentist for every 5,507 people.

"If you're poor you have a huge problem," said Kevin Concannon, commissioner of the Maine Department of Health and Human Services, "but even if you're not so poor, there's a limited supply of dentists in Maine."

Concannon says there are only a couple of dentists in Aroostook County who are accepting any Medicaid patients. These low-income patients sometimes have to travel as far as Portland or Falmouth to get their dental care, if they get it at all.

Although as many as 40 percent of Maine dentists will not accept Medicaid patients, low reimbursements and paperwork are not the only reason they have closed their doors to low-income patients. Only 15 of the 300 dentists who responded to a state survey last year said they would be able to take more Medicaid patients — even if the state paid them 130 percent of their customary charge.

"It isn't just a function of what we reimburse," Concannon said. "Their practices are full."

The problem is even worse in pediatric dentistry. Maine has only six full-time specialists who can take care of the special dental needs of children, Saltz said.

"There are a few of them here, but these guys are booked months ahead of time," Saltz said. "They're just inundated."

The situation isn't expected to improve anytime soon, although the state and dental association are developing strategies for dealing with the shortage. A new federal report projects that the number of dentists in the United States will grow 8 percent by 2006, but there is no growth at all projected for Maine.

There are several reasons for the shortage. For one thing, fewer people are graduating from dental school.

"I think one of the reasons . . . is the tremendous cost of dental education today," said Dr. Andrew Allen, a Brunswick dentist who chairs a dental association committee looking into ways to alleviate the shortage.

> *"If you're poor you have a huge problem. But even if you're not so poor, there's a limited supply of dentists in Maine."*
>
> Kevin Concannon, commissioner
> Department of Health and Human Services

"Dental education is the most expensive health-care education other than veterinary education," he said.

New dentists tend to graduate with a heavy debt load; a third of this year's graduates at Tufts' dental school in Boston, for example, launched their new careers with more than $175,000 in unpaid bills.

"I think that type of debt makes the choices for students coming out of dental school very difficult," Allen said. "They can't go and set up on their own and incur the debt of getting a building and buying equipment. . . . It may be discouraging people from getting into dentistry."

Nationally, the country produced 3,000 dentists a year in 1980, but that number has now dropped to 2,000, Concannon said. Maine has no dental school of its own, and attracting graduates here from other states can be a challenge.

"I think we could compete on quality-of-life issues with just about anywhere in the country in terms of safety, affordability, the natural environment, that sort of thing," Concannon said. "But what may on paper scare potential dentists off is we're 36th in per-capita income, so they may think there are limited economic opportunities."

Concannon said he would like to improve access to dental care in the state by finding a way for dental hygienists to practice in more public-health settings, such as hospitals, clinics, schools and nursing homes, where they could do more prevention work.

"We know that for many children who are in school, their only contact with the health care system may be with a school nurse, and that's kind of a safety net," Concannon said. "Well, if we had school dental hygienists for school systems where they focused on teaching kids early in their life on proper brushing and nutrition and flossing — all of the things that we know make a huge difference — that would have a huge beneficial effect on thousands of children in our state."

Dental hygienists are allowed to go into some of these settings now, but only on a volunteer basis. And they must be supervised by a dentist, says Mary-Lynne Murray Ryder, president of the Maine Dental Hygienists Association.

A committee of dental hygienists and dentists has been working the past few months to find a way to allow hygienists to broaden the scope of their practice without stepping on dentists' toes.

"We've talked with innumerable school nurses across the state who say one-third of their kids' complaints have something to do with oral issues, and they can't do anything with these kids," Murray Ryder said. "Most of them are low-income kids, and there aren't dentists taking Medicaid, which is another whole big issue."

Concannon said he has directed the state's Medicaid staff to make it possible for the state to reimburse hygienists directly, rather than having to go through a dentist's office.

"I think the private insurance companies, for this to work for everybody, would have to do the same thing," he said.

Concannon said he would also like to see more of a commitment from hospitals and state government to hire full-time dentists to care for certain populations such as low-income patients.

The Maine Dental Association has been working on its own strategies to alleviate the shortage by attracting more young dentists to the state:

✓ During the last legislative session, the dental association sponsored a bill to create the Maine Dental Education Loan Program. This program will provide up to $20,000 in loans per year for Maine students who go on to dental school.

"Then if they graduate and come back and practice in underserved areas, as determined by our department of health, 25 percent of their loan is forgiven for each year they practice," Allen said.

✓ The group also is trying to bring a dental residency program back to Maine. In the past, half the residents who trained in Maine under a similar program ended up staying in Maine.

✓ The association has developed a contact list of Maine dentists that students from across the country can call to find out what it's like to practice in Maine. Letters are being sent to the deans of all U.S. dental schools to inform them of the need for more dentists in Maine.

✓ The dental association is developing a Web site and information packet for dental students that will tout the state's quality of life. And next year the MDA will host a lobster roll lunch for third-year dental students at Harvard, Tufts University, Boston University and the University of Connecticut.

Even if these strategies work, it could take a few years before they start to pay off.

"It's a complex issue in that there are many different facets to it, and it's going to take a little time to work out," Saltz said. "There's no easy pill to swallow."